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# JOURNAL
## OF THE
# AMERICAN PHARMACEUTICAL ASSOCIATION

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**THE SIXTY-EIGHTH ANNUAL CONVENTION OF THE AMERICAN PHARMACEUTICAL ASSOCIATION WILL BE HELD IN WASHINGTON, D. C. DURING THE WEEK BEGINNING MAY 3, 1920.**

**The American Conference of Pharmaceutical Faculties and the National Association of Boards of Pharmacy will also meet in Washington during week of May 3, 1920.**

**The U. S. Pharmacopoeial Convention will meet in Washington during the week of May 10, 1920. (Centennial Year of U. S. Pharmacopoeia.)**

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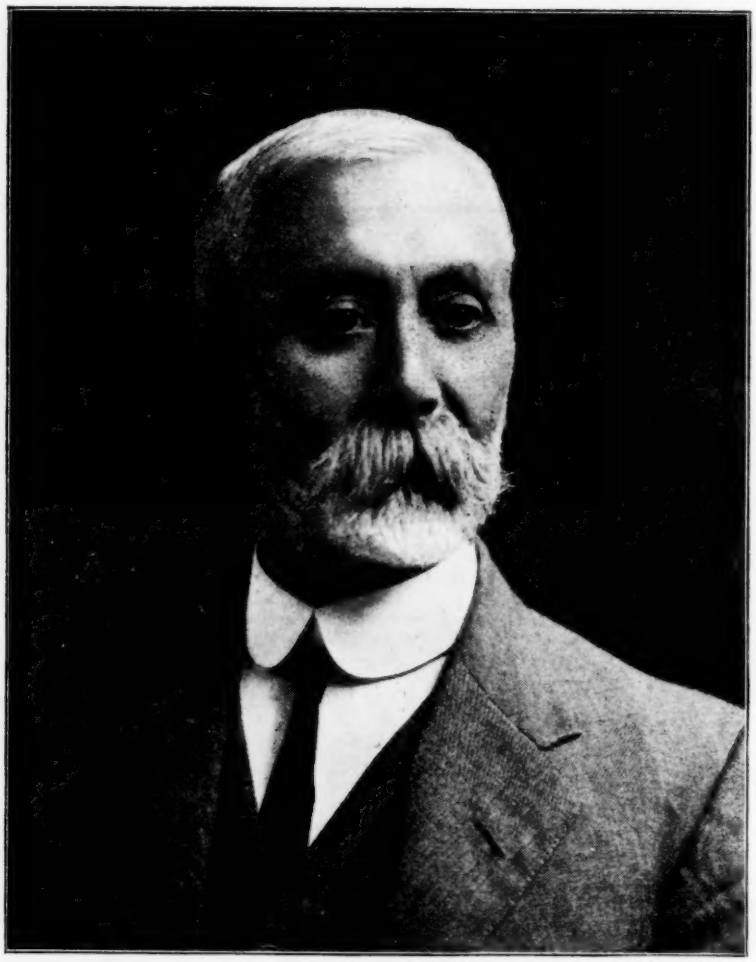

JOSEPH HENRY MAIDEN

JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

VOL. IX MARCH 1920 NO. 3

## JOSEPH HENRY MAIDEN.

Joseph Henry Maiden, director of the Botanic Gardens, and lecturer in Agricultural Botany and Forestry in the University of Sydney, was elected an honorary member of the American Pharmaceutical Association at the New York meeting, 1919.

Mr. Maiden was born in London, April 25, 1859. In 1880 he came to Australia, being forced to abandon his University career to seek a milder climate. He was elected Curator of the Technological Museum in Sydney, on its foundation in 1881, and held the office until 1896, and was also Superintendent of Technical Education for New South Wales from 1894 to 1896. For more than thirty years he has been closely identified with the organization of botanical work on scientific lines, working on the taxonomic, economic, historic and geographic aspects of the Australian flora. His reports on the Botanic Gardens, Domains and Centennial Park, presented to the New South Wales Parliament, continuously since 1896, afford a mass of specific evidence in this direction, and his "Useful Native Plants of Australia" (1889) presents the first attempt to collect and systematize the scattered literature of Australian economic plants. Further reference to work accomplished and honors received indicate the achievements of a persistent student and of one who learned to love his adopted country and while devotedly laboring for the development of her resources secured world-wide recognition. His "Forest Flora of New South Wales" is in its seventh volume; it is a quarto work published in decades and 62 parts have already appeared. It is profusely illustrated and contains original botanical details and economic notes in regard to each species. Thirty-eight parts of the "Critical Revision of the Genus Eucalyptus" have been issued to date. The work contains 159 lithographic plates of detailed studies of the species. Mr. Maiden was instrumental in an extensive introduction of Australian seeds in California and other parts of the United States, and he is an honorary Vice-President of the Forestry Society of California.

In 1915 Mr. Maiden was awarded the Gold Medal of the Linnean Society of London, and in 1919 the "Grand Medaille" with diploma of the National Acclimatization Society of France. He is corresponding or honorary member of many organizations, societies and institutions concerned with horticulture, agriculture and botany, throughout the world. Twice he was President, and for 22 years Honorary Secretary, of the Royal Society of New South Wales; for two years President of the Linnean Society of New South Wales, and elected Permanent Honorary Secretary of the Australasian Association for the Advancement of Science, January, 1907. He is the founder of the National Herbarium of New South Wales, and for 18 years was the President of its Horticultural Association. For several years he was Councillor and for two years President of the Australian Historical Society, in acknowledgment of historical researches relating to Australian botanical workers, and the early history of Sydney's botanic gardens and parks.

Mr. Maiden is one of the original corresponding members of the Pharmaceutical Society of Great Britain, an honorary member of the British Pharmaceutical Conference, of the Pharmaceutical Society of New South Wales, and now of the American Pharmaceutical Association. E. G. E.

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## IMPORTANT NOTICE.

The members are informed relative to the annual convention of the American Pharmaceutical Association to be held in Washington, D. C., during the week of May 3, 1920.

Contributors to the programs of the Sections should send in the titles of their papers by an early mail and accompany them with brief synopses. The papers, if possible, should reach the officers of the Sections for which they are intended prior to the meeting. Should this be impossible, they are to be submitted to the Chairmen of the Sections before the first sessions are convened. Regardless of whether the papers are sent in before the Convention or preceding the opening sessions, the titles should be communicated to the Chairmen of the Sections before which they are to be read, together with brief abstracts indicative of their contents, as heretofore indicated. A copy of the latter should also be sent to the JOURNAL OF THE A. PH. A., 253 Bourse Bldg., Philadelphia, Pa., so that the program can be properly prepared in advance of the meeting, and printed for distribution during the sessions. The coöperation of members is enlisted, and a large number of papers for all the Sections is anticipated.

The names and addresses of the Section Officers will be found in the Association Roster of *this* issue of the JOURNAL. Please address them promptly (before April 1) and coöperate with them in making the Centenary Year of the United States Pharmacopoeia a memorable one in the history of American Pharmacy and our Association.

# EDITORIAL

E. G. EBERLE, Editor 253 Bourse Bldg., PHILADELPHIA

## DIRECT AND INDIRECT EFFECTS OF PROPAGANDA.

PROPAGANDA in some of its phases has become offensive and of serious moment in national and state legislation. The lobbyists of former days are included among the modern propagandists, and propaganda comprehends, besides many promotions for good, the misguided zeal of the professionally good and the schemes of more or less questionable importance of the purposely selfish. An indiscriminate attack on measures and policies, before they have been studied and understood, or the foisting of undesirable or unnecessary legislation, does not help affairs of Government and society.

Congress and State legislatures complain of the conditions which added unnecessary but unavoidable expenditures during the years of the war and left a heritage of numerous offices and officials, a stimulated passion for office and office-seeking, a craving for reform and legislation, responsive to which a much-governed and dependent citizenship is developing. Great matters cannot be decided nor the affairs of Government and states kept in motion by legislators unless they are informed relative to needs, but the system of espionage and propaganda that brings much of the pressure of constituents to bear whereby the judgment of legislators is influenced is not for the greatest good to the greatest number. For the purpose of affecting legislative measures for "anti" this and "pro" that; for influencing the creation of this and the destruction of that, reservoirs of information are filled and at psychological times they are loosed on the unsuspecting (?) legislators, and, for still greater effect, the coöperative energy of telegraph, telephone and mail are called into action.

While legislators regret the selfish promptings of their constituents, they themselves make very free use of propaganda; much of the Government printing, free distribution, etc., is nothing more, and for this the citizen also pays. We do not know whether a particularly striking reference is made in repeating the statement that for the reprinting of a speech, as a Senate document, nearly fifty tons of white paper was required, and thereafter the mails carried the message, the high cost of paper and transportation of course being borne by the public. The voter who has joy in the measure of his importance does so with perfect right, for he shares in the campaign expenses of legislators. The expenses of propagandists in and out of the legislative halls are contributing largely to the high cost of living and creating disturbing factors in all lines of activity and mis-shaping legislation, and these conditions must be met.

Complicated legislation has seriously affected the drug industries and, notwithstanding the responsibilities with which pharmacists are charged, very little

consideration has been shown them by the Government. For more than fifty years they have endeavored in vain to rid themselves of the designation, Retail Liquor Dealers, certainly a flagrant injustice under present legislation. Co-operation of the drug trade is desired by the U. S. Revenue Department; let it be so, and Congress importuned by the latter as well as by the former to remove the title which is not applicable to pharmacists, in conformity with law and justice.

E. G. E.

## EMPLOYER AND EMPLOYEE IN THE PRESENT CRISIS.

"THE proper study of mankind is man." The lack of understanding gives rise to trouble no less than does selfish propaganda. Human nature is at the bottom of our humanity and our inhumanity; when there is sincerity, when the facts are known, then there will be an understanding of actions, wishes and expectations among fellowmen.

"Look out, not in," was a famous saying of Edward Everett Hale. Self-consciousness and suspicion destroy confidence. The individuals or organizations who seek to find their own weaknesses are not only usually successful in their search but create new ones; the same applies to character—you cannot see yourself by looking within yourself—you are revealed by your works. "A false balance is an abomination" applies not only to ourselves with ourselves but in our relation to others. In the present social, industrial and economic unrest throughout the world this estimate enters, and it matters not how we seek to answer the question. Covetousness impels men to disregard justice, equity and right in their efforts to possess what either should be shared with others or belongs rightly to the latter. Selfishness and greed cause envy and jealousy, which engender indifference and may lead on to hate. Further applications may be made from the relations of employer and employee. There can be no coöperation where there is a desire of one to seek unjust advantage over the other; there must be right pay for right service and right service for right pay. There never was a time when there was greater need for larger production; for quality of work that will uphold confidence in goods that are manufactured in the United States. It is unfortunately true that unsatisfactory conditions obtain in all countries, and out of the confronting problems men must learn the lessons of equity and justice.

E. G. E.

## THE APPLICATION OF SCIENCE IN INDUSTRY.

IN the *New York Commercial* for March 1, 1920, is an extended abstract of the report of the British Mission of the British and Canadian drug and chemical industries, that visited the occupied region of the German Rhineland about a year ago. The document covers 162 printed pages and not only constitutes a detailed report but presents the impressions of the members relative to these important industries; we are citing some of these:

"In the larger works success has been achieved through the complete and efficient combination of the services of a number of experts, each representing one of the main branches of activity. The Germans, in fact, have learned how to use their leaders with the utmost effect. Moreover, in Germany the whole community takes interest in chemical industry, and as a consequence the industry is assigned a position of honor similar to that accorded in Britain to shipbuilding. The status of the chemist is such, too, that chemistry, being at least equal to any other profession, can claim the service of the best brains in the country. The progress of chemical industry has involved the development not only of the chemist, but also of the engineer, the electrician, and other specialists, each in his sphere as well trained as the chemist. While the chemist has known how to select his materials, the engineer has known how to make use of them; there has not only been the closest possible coöperation between the two branches, but full sympathy in aims and mutual understanding of the object to be gained."

Nothing appears to have struck the mission more than the apparently unstinted outlay of money on laboratories, libraries and technical staff, especially in the larger works, as indicated by the following:

"At Leverkusen, in addition to the numerous control laboratories attached to the various manufacturing departments, the operations of the scientific staff are conducted in a separate palatial building which will compare favorably with any of our academic institutions. The main library contains between 50,000 and 60,000 volumes, and 60,000 to 70,000 dissertations. The basis of this library is that which belonged to Kekulé, and which was purchased at his death. It now contains complete sets of every journal dealing with pure, applied, textile, and pharmaceutical chemistry in all languages. Current journals on these subjects are obtained from every country of the world; these are all abstracted and the abstracts filed for reference. Arrangements exist with booksellers all over the world to send in to the library all books dealing with chemical subjects. The patent section is quite separate and contains copies of all the published chemical, dyestuffs and pharmaceutical patents, which are regularly filed and indexed."

The mission recognized that in the German works the laws of chemical science are applied to manufacturing processes, but what is far more important, scientific method is found to underlie all that appertains to industry, and the whole atmosphere of the works is scientific.

The British Mission concludes that German success in chemical industry has been obtained through honest labor and is deserved—that it is in no way dependent upon any special ability which the Germans alone possess. On the contrary, where it has been possible to make comparisons, in several cases it has been clear that greater intelligence has been exhibited in English works, the processes in use having been carried to a level of efficiency higher than that reached in Germany.

As so ably pointed out by Major Frank L. McCartney, President of the New York Branch, A. Ph. A., to build up a large chemical industry in the United States there must remain no unutilized waste products in the manufacture; a coöperative system of the related industries must be built up which will bring pharmaceutical and chemical manufacturers into closer relation. Science must be applied not only in the laboratory and the factory proper, but also in every division of business activity, and its links attached to buying and selling, even to the management of labor.

E. G. E.

## THE RIGHT TO REST.—No. 3.

BY JOHN URI LLOYD, PHAR. M.

But other reasons than those presented in the previous articles may be considered valid as concerns one's right,—yes, one's duty, toward himself and friends, when, after years of faithful service, comes the question as to whether or not the details of Association work shall longer claim his care.

There may have been no hypercritical allusions by either jealous or thoughtless tongues concerning either the man's aims or his methods. Although very active, he may neither by faction nor by clique have been viewed as a boss, or a usurper. Nothing unpleasant may ever have reached his ear from the ever-present face-friend or back-foe. Nor may there have been rivals who desired his place, nor yet men who did not themselves care to serve the society, but, notwithstanding, delighted in spreading insinuations concerning those who are ever making sacrifices of time and money in behalf of the society.

All innuendoes, all unkind criticisms such as these may have been kept from his ears by his real friends, to whom they had been purposely told or slyly repeated, but who refused to please the persons making such attacks, by transmitting their remarks to the man for whose ears they had been so insidiously uttered. He may have been fully advised concerning remarks made by personal antagonists, and either indifferent to their processes, or unwilling to withdraw from affairs more important than personal discussions. All inside the Association may be, and may ever have been pleasant to this man of Association work and sacrifice, and yet he may justly have reasons for desiring rest.

Be this as it may, is it not sufficiently valid for him to say—I am tired, very tired? Or, may he not ask—Am I not now old enough to have earned a needed rest?

Again, men's tastes change, their ambitions are not always such as they were when in youth. Nor in the yellowness of age are they the same as in preceding days of youthful strength. There may come a time in the record of the man, when in his very prime, without apparent cause, without a reason that can be formulated into words, problems that until recently held his enthusiasm, become a task instead of a pleasure. Gone, he knows not why, are the ambitions that possessed him the preceding year—or all the years that lie behind. No longer does the heart spring when present themselves matters that once gave inspiration. Former sources of joy become now insipid, the pleasures of former works are now as irksome tasks. A change that simply *is*, has come unannounced. The man no longer is the man he was in former times. Appreciating these conditions better and more fully than can friend or acquaintance, he now craves the rest that change of effort gives him. But a short time previously it would have been a pleasure to go on in Association affairs—now *pleasure* means the dropping of all such complications. He craves to be relieved, he asks it in all kindness to others, and in justice to himself. He has no excuse other than a desire to *rest*—he offers none other than a longing begotten of weariness.

No bitterness is in his heart—he is as anxious as ever in behalf of the progress of the Society, yet he craves nothing further in Society responsibilities. To him

the Association's cause is yet dear, the friends of the Association are as close and beloved as formerly. And yet, he wishes to rest—he needs the mind tranquility that comes in rest.

The fact is, the current of his life has insidiously changed. The old is gone, a new has taken its place. He is no longer the man of times gone by—to continue him by persuasion or otherwise in his place or elsewhere, is both to wrong the man, and risk the good of the Society.

Indifference is now his part—duty may hold him in place, but duty cannot replace enthusiasm and zeal. To be indifferent to a cause is to become dissatisfied, to be dissatisfied is to become a fault-finder—from fault-finding to peevishness and personalities is but a step. The danger of all this lies before any man who feels the touch of indifference and asks rest both as a right to himself, and for the sake of the Society. In such a case as this, it is the duty, and should be the pleasure of an Association, to finally help this man to do his last, best service to himself.

Nor is it our part, as Society members, to insist on a reason for the desire to resign activity. Valid reasons can perhaps not even to himself be given. Is it not our duty to graciously and gratefully thank the man who has so long and so faithfully given us his time? Is it not our duty to look upon his past services as privileges we have enjoyed, and by which the Society has profited? Is it not our duty to not only acquiesce in his request, but to help this friend who needs rest, to the rest that comes in the needful change? Life's altered hopes, ambitions and ideals sooner or later involve every man who moves in the world of thought and action.

* * * * * * *

*Later*—(1920). These years ago this writer prepared three manuscripts on the subject, "The Right to Rest." Two have been lost, perhaps never to be found. The third is this day taken from the old files and read, not without profit to himself.

Lest some friend imagine that he held himself then in view, he will now state that it was another, who no longer requires rest such as then was needed.

Lest another friend might ask, does this old manuscript appeal because you now, after passing the three score years and ten milestone, seek relief from care—are you becoming peevish and bitter, or indifferent—he will reply, Friends old and new are as dear as they could ever have been. The hours of work each day are as many as in middle life. May they be so to the end.

But, comes now the necessity of closing the chapter, of picking up and rereading fragments such as this, "The Right to Rest," of destroying correspondence that might bring pain to others, of burying from sight all evidences that speak of stormy times gone by, of looking upon human differences in the passing along as natural and necessary incidents in life, of maintaining his attempt to follow the lasting motto—"Faith, Hope and Charity" and, may the records show that of these, "the last shall be first."

# SUGGESTIONS FOR THE REVISION OF THE UNITED STATES PHARMACOPOEIA.*

BY H. H RUSBY.

The first suggestion that I have to offer is that the next Committee of Revision should endeavor to profit by investigations made by preceding committees and by the conclusions so reached. Each Committee of Revision expends, in the aggregate, a large amount of time and effort in studying special questions. The results of these studies, incorporated into the Pharmacopoeia, should remain there until the new Committee has gone fully over the ground of its predecessors and shown their conclusions to be in error. This course is often not pursued, the new committee taking up the work *de novo* and going ahead with its changes without due consideration. The result is often a reversal of previous results, not because of a more exhaustive study, but because of insufficient study, and especially through ignorance of the work previously done in Pharmacopoeia revision. The very first place to which a new committee should turn for information regarding any subject under consideration should be the files of reports, correspondence and discussions of *all* previous committees in relation to that subject. Those results should then be judged in the light of information secured since that time. As an illustration, I will refer to the perennial proposition to introduce 50 percent tinctures to the Pharmacopoeia. A special sub-committee studied this question experimentally, their work extending over a period of several years, and concluded that the plan was not workable, except in a few cases. That report should be the basis of all future study of this question, but it is not likely to be made so unless a definite plan is inaugurated for rendering the files of previous committees easy of consultation. The question of introducing maximum doses was most thoroughly studied and freely discussed, and the method shown to be dangerous. It is again to be urged at the coming Convention. The first step in deciding it should be to read all that was written by the members of the preceding Committee. Will this be done?

My suggestion in this connection is that a special sub-committee of the present Revision Committtee should make a general index to the proceedings of all previous committees, and that every question studied by the newly appointed Committee should be first studied from these files.

My second suggestion is that there should be a close coöperation between the revisors of the U. S. P. and those of the N. F., with the object of securing greater uniformity of procedure regarding subjects treated in both books. For example, where doses of preparations of a drug appear in both books, they should be mutually consistent. The nomenclature of the two books also should agree, as well as the classification and spelling. In the case of disputed points, a correct result is more likely to be reached by such coördinated work than by that of each body working alone.

The proper treatment of certain families calls for special study, by the appropriate sub-committee.

*The Leguminosae.*—There is a steadily growing opinion among taxonomists that the groups *Mimosaceae, Caesalpiniaceae* and *Papilionaceae* are of family

* Read at the meeting of the New York Branch of the A. Ph. A., February 9, 1920.

rank, rather than that of sub-families, as they have heretofore been mostly treated.

*The Rosaceae.*—The same may be said of the *Drupaceae*, *Malaceae* and *Rosaceae* proper, heretofore treated as sub-families of the *Rosaceae*.

*The Liliaceae.*—I am clearly of the opinion that the *Melanthaceae*, *Convallariaceae* and *Alliaceae* represent families distinct from the *Liliaceae*, with which they are mostly grouped as sub-families. It may be that the *Trilliaceae* should be regarded in the same light, although I am personally not quite so clear on this point.

*Acacia.*—This should be referred to the family *Mimosaceae*.

*Acidum Salicylicum.*—When this product is of synthetic origin, that fact should be stated on the label, and the same thing should be done in the case of its salts.

*Acidum Tannicum.*—There appears to be no good reason why the origin of this acid should be restricted to nutgall, provided that it complies strictly with the description. Myrobalan yields an equally good product.

*Aconitina.*—There seems to be no good reason why the origin of this alkaloid should be restricted to "Aconite," unless the definition of the latter is extended to include Japanese Aconite.

*Aloe.*—Family *Dracaenaceae*.

*Amygdala.*—Family *Drupaceae*. An important botanical question which ought to be decided is whether the species referred to *Prunus* by most botanists, but producing pink flowers and having a foveolate stone should not be segregated as the genus *Amygdalus*. This division would of course include the peach as well as the almond.

*Asafoetida.*—The definition should say "by incising the living root," instead of "the root." The ash allowance should not be more than fifteen percent. To allow more invites adulteration, since no commercial lot of asafoetida ever contains more than this amount unless intentionally adulterated.

*Aspidium.*—I never find any *D. marginalis* in commercial Aspidium, and do not know that any evidence has ever been adduced to prove that it is equally efficient with the genuine Male Fern. The activity of this drug is a matter of such great importance that no doubtful product should be admitted under it.

*Balsamum Peruvianum* and *B. Tolutanum.*—Family *Papilionaceae*.

*Belladonnae Folia.*—I renew my recommedation that this definition should be made to include stems not more than 7 mm. in diameter.

*Belladonnae Radix.*—The definition excludes "more than 10 percent of stem bases and other foreign matter," but hard woody crowns have less activity than the stem bases, rather than more. I therefore, recommend that this should read "not more than 10 percent of stem bases, woody crowns or other foreign matter."

*Benzaldehydum.*—When this product is of synthetic origin, the label should be required to so state.

*Buchu.*—The whole subject of buchu requires investigation. While it is true that the two official species are probably equal in efficiency, yet they are sufficiently different to enable anyone to distinguish them by their odor and taste. Hence, both the drugs and their preparations should always bear a statement to indicate the variety. There are several other species of Barosma which may be equally efficient and equally entitled to a place in materia medica. The sub-

committee on therapeutics would confer a great service if they would investigate this question.

*Camphora.*—The definition says "a ketone derived from *Cinnamomum camphora;* it is dextrogyre." This is not good form for a definition. Only in case that the plant yielded more than one ketone should the definition specify that such ketone is dextrogyre. This statement should form a part of the description and not of the definition. If introduced to the definition at all, it should be defined as "a dextrogyre ketone derived from," etc.

*Cannabis.*—The naming of the "variety Indicum" is superfluous. The name of a species always includes its varieties, unless these are excluded. For example, if the typical form is not to be included, we should say "of *Cannabis sativa Indica.*" If, on the other hand, this variety were not included, we should say "of *Cannabis sativa typica.*" Both being included, the name of the species "*C. sativa*" is all that should be used, since this is always regarded as being comprehensive. If there were any serious question as to whether Indica is a variety or a distinct species, then, of course, the present form might stand; but this idea has now been abandoned by everyone. The fact that a certain form of definition is used in the German Pharmacopoeia is a very poor reason for blindly incorporating it into our own. The idioms of languages differ so greatly that it might easily be that one form would appear appropriate in one language which would be in violation of the spirit of another language.

*Chrysarobinum.*—Family *Papilionaceae.*

*Rheum.*—The same remarks applied above to Cannabis apply equally well to the use of "variety *Tangutricum*" of *Rheum palmatum.*

*Glycyrrhiza.*—Family *Papilionaceae.* In the case of this drug, it is mere servility to blind leadership that has led our Committee to call *Glycyrrhiza glandulifera* a variety of *G. glabra.* Even those who do not know the plants ought to be able to recognize the fact that the marked differences in the characters of the two roots prove specific distinction between the plants yielding them.

*Capsicum.*—The use of the name "*Capsicum frutescens L.*" constitutes an acceptance of the view that there are but two species of Capsicum, namely *C. frutescens* and *C. annuum.* It is exceedingly doubtful whether this is true. Although one author claims so, another admits no less than seventy species. Undoubtedly the truth lies somewhere between these two extremes. However, if we accepted this classification, the name "*C. frutescens*" would necessarily include a great number of varieties, only a very few of which are capable of meeting the requirements for medicinal use Either "*Capsicum minimum*" or "*Capsicum fastigiatum*" would be acceptable. The latter has priority and is about as good as the former.

*Cardamomum semen.*—The description of this seed does not sufficiently exclude the so-called camphor seeds, which have always been a common and abundant admixture in objectionable shipments of cardamom seed. I have frequently rejected lots containing as much as fifty percent of this adulterant, but one would hardly be able to do so by depending only on the U. S. P. description.

*Cascara Sagrada.*—By the unfortunate change in the title of this drug, a purely Castilian name has been made to stand as "the official Latin title." Although "Cascara Sagrada" might well stand as the official English title, since it has be-

come fully anglicized by its general use, it seems to be a decided linguistic error to make it stand as the Latin title.

*Cocaina.*—Our organic chemists, as well as our botanists, should certainly do something to improve this definition. Much cocaine is made by artificial changes in the alkaloid truxilline, after its extraction from truxillacoca. Therefore, it can scarcely be defined as "obtained from" that leaf. Even it it were, the term "variety" cannot be correctly applied to the Truxilla leaf. I have fully established the fact that this is a distinct species, and have so described it, with illustrations. I have also shown that no other name can properly be applied to it than "*Erythroxylon truxillense.*"

*Copaiba.*—Family *Caesalpiniaceae.* It has recently been claimed on good authority that African copaiba imported since the publication of the present edition of the U. S. P. is of good quality. I do not know that this is true, but the subject is worthy of investigation.

*Gambir.*—This should be specified as "A dried aqueous extract" instead of "a dried extract."

"*Gossypium herbaceum.*"—Should be *G. hirsutum L.*

*Grindelia.*—Owing to the great and necessary uncertainty as to the botanical source of any particular lot of Grindelia, coupled with the fact that preparations of all the species are practically identical in character, it seems unwise to name the species. I have found by personal experience and through much correspondence that the effect of such specification tends only to confusion. It would not be a bad idea to specify a minimum amount of oleoresinous extractive to be yielded through a specified process of extraction. There actually is a wide variation in the quality of commercial lots, but this is quite as likely to exist between two lots of the same species as those of two different species. The specification of the amount of the extractive would do a great deal toward producing uniformity.

*Guarana.*—So far as we can learn, from the descriptions of those familiar with the process of preparing this drug, the present definition is faulty in various ways. Not "the seeds," but their kernels, that is, the seeds deprived of the tests, are present in the product, and these have been subjected to a roasting process before being moulded into rolls. If this information is correct, the definition should read "a dried paste consisting chiefly of the crushed or powdered roasted kernels of the seeds," etc.

*Hydrastina.*—When this alkaloid is of synthetic origin the label should be required to so state.

*Hyoscyamus.*—Should include stems not above 7 mm. thick.

*Ipecacuanha.*—I have not been able to find any publication of the name "*Cephaelis acuminata*" Karsten. Engler and Prantl refer the plant to *Psychotria emetica* Mutis, but it is certainly not a Psychotris. The plant itself must be secured and studied.

*Kino.*—(Family *Papilionaceae.*) The statement that kino is the "spontaneously dried juice" appears to lack support. It is claimed by writers on Indian products that the juice is evaporated by artificial heat in shallow pans.

*Limonis cortex.*—If the fresh rind is required, that fact is not stated by saying "the rind of the fresh fruit," for such a rind could be dried after it was removed from the fresh fruit. We should say "the fresh rind."

*Maltum.*—It would be better to say "of one or more species or varieties of *Hordeum.*"

*Oleum Amygdalae Amarae.*—Family *Drupaceae.*

*Oleum Aurantii.*—This definition is a sort of botanical curiosity, saying as it does "from *Citrus Aurantium Sinensis* and its varieties." *Citrus Aurantium Sinensis* cannot possess varieties since it is itself a variety. If this specification is desired at all, the form should be "*Citrus Aurantium and* its *varieties.*" It would be better, however, to omit all reference to varieties since the name of the species is understood as including them unless there is a specific exclusion.

*Oleum Caryophylli.*—In this definition, we have printed both the name and the synonym, which is tautological. Either name would suffice, so long as its authority is correctly given, although the correct one should of course be selected. There is also a question as to whether the peduncles of the flowers should not be included in the source of the oil, since they seem to be largely used in its distillation. Of course they are properly excluded from the definition of cloves, because the percentage of oil present in them is very small.

*Oleum Cassiae.*—This definition says "from *Cinnamomum Cassia,*" whereas it should say from the bark of that species.

*Oleum Chenopodii*—The plant should be "*Chenopodium anthelmenticum*" as a species, and not as a variety of *C. ambrosioides.* A more important question, however, is whether there is any justification for restricting the source of this oil to the former species The other one is very much more abundant and common, and I think it extremely likely that both are used indiscriminately as the sources of the oil.

*Oleum Cubebae.*—It has been quite generally claimed that the oil distilled from the ripe fruit is equally good with that from the unripe. In the case of the fruit itself, we do well to require the unripe article, since the ripe one contains much less oil. But as to whether the oil that we do obtain from the ripe fruit is of equal quality with that from the unripe appears to be an open question.

*Physostigma.*—Family *Papilionaceae.*

*Pix Liquida.*—All things considered, this is doubtless as absurd a definition as has ever been found in any edition of our Pharmacopoeia. "A product obtained by the destructive distillation of the wood" named might be any one of the following articles, or of a number of others which I do not name: tar, oil of tar, pix navalis, toluol, naphthol, naphthalin, creosote, guaiacol, cresol, paraffin, amylyl alcohol, acetic acid, smoke, lampblack or charcoal. A definition which leaves it open to question as to which of these articles is intended, is no definition at all. If a definition does not define, what is the use of having it? This is an excellent illustration of that pernicious tendency in Pharmacopoeia revision to make changes for changes' sake, with no sound reason for doing so and often against sound reasons to the contrary. When anyone undertakes to displace the work of Dr. Charles Rice, when so carefully performed as was his framing of this definition in the previous edition of the Pharmacopoeia, he must needs be a person of rare good judgment, as well as of full information. The former definition was "An empyreumatic oleoresin," and it was about as nearly perfect as it can be made. The Committee of Revision should see to it that this definition is restored.

*Prunus Virginiana.*—Family *Drupaceae.* It appears now to be quite clearly

determined that Linne actually did have the plant yielding our official wild cherry bark when he named and described his *Prunus Virginiana*, and that we have been in error all along in calling the latter *Prunus serotina*. Another question arising in this connection is whether to separate those species now held under *Prunus* which bear their flowers in racemes, assigning them to the separate genus *Padus*. There is considerable of a disposition among botanists of the present day to hold *Padus* a distinct genus. While I have not at present any disposition to recommend such a change, I think that our botanists should give it careful consideration.

*Quassia.*—It seems desirable that the label of any lot of Quassia or of its preparations should bear a statement as to which of the varieties it pertains.

*Rheum.*—It is extremely doubtful if we do well in assigning this drug to "the rhizome and roots." The upper part of the undergound structure, while a distinct crown, can scarcely be regarded as a rhizome.

*Santalum Rubrum.* Family *Papilionaceae.* It has recently been proposed by Farwell that the plant yielding Santonica should be called "*Artemisia maritima pauciflora*," as it was in a previous edition of our Pharmacopoeia, but I cannot regard the proposition as correct. The differences between these two forms are certainly of a specific rank. This case is much like that of the two Chenopodiums, but I think it is even stronger in that of Santonica.

*Sarsaparilla.*—Family *Smilaceae.*

*Scilla.*—Family *Alliaceae.*

*Senna.*—Family *Caesalpinaceae.*

*Sinapis Nigra.*—From *Sinapis nigra L.*

*Sparteinae Sulphas.*—Family *Papilionaceae.*

*Spigelia.*—In view of the growing scarcity and increasing price of this drug, I renew a suggestion previously made to the Revision Committee, that *Spigelia anthelmia* and other abundant tropical American species of this genus should be studied in comparison with *S. Marylandica*, to determine their relative activity. I am inclined to think that they will be found even more active than our own species.

*Stramonium.*—I renew my suggestion that the definition of this drug should include stems not more than 7 mm. in diameter.

*Taraxacum.*—Certainly there can be no sound practical reason for calling this structure a "rhizome and root."

*Theophyllina.*—Family *Theaceae.*

*Triticum.*—When the definition of Triticum was so changed as to include roots as well as the rhizome portion, I foresaw the difficulties which should consequently arise. No careful manufacturer or pharmacist will make use of the root portions of this drug, even though permitted to do so by the Pharmacopoeia. The result is that all triticum of good quality continues to arrive with the root portion removed. Then the fact that the Pharmacopoeia permits the roots to be included leads to the mixing of the roots rejected from one lot with some other lot. The quality of the drug is thus degraded because the nodes with their roots possess very little activity. I have seen a shipment of this drug imported which consisted almost wholly of the nodes and roots. There was just enough of the rhizome present to justify its being classed technically as "rhizome and roots,"

so that it was admitted by the authorities, with the result that practically inert preparations were placed upon the market.

*Veratrina and Veratrum.*—Family *Melanthaceae.*

POSOLOGY.

The posology of the Pharmacopoeia is in special need of revision, a fact that I realized upon the occasion of a recent examination of my students in this subject. Most of the men taking this examination have had considerable experience in the pharmacy and are familiar with the doses usually prescribed. When called upon for the average doses of a number of articles, those given were in most cases conspicuously larger than the average doses given in the Pharmacopoeia. The incident merely served to show, what I think is generally recognized among medical men, that most of the doses of the U. S. P are too small.

A more serious defect is that of inconsistency between the doses of drugs and their preparations, the ratio between such doses differing widely from that between their respective strengths. The same want of uniformity is seen between two preparations of the same drug.

It would take too long for me to review here all the doses of the book as to this feature, but I submit the following as typical illustrations:

*Balsam of Tolu and Balsam of Peru.*—The principal active constituent of these two drugs is benzyl-benzoate, of which balsam of Peru contains from six to ten times as much as does balsam of Tolu, the inert resin of the latter being nearly three times that of the former. In spite of these facts, the U. S. P. assigns the same dose for both.

*Senna.*—The dose of the syrup is the same as that of the fluidextract, notwithstanding that the latter is four times as strong.

*Logwood.*—The extract is nearly eight times as strong as the fluidextract, yet the dose is half as large.

*Myrrh.*—Tincture of Myrrh is of 20 percent strength; that is, it is only one-fifthas strong as myrrh itself, yet its dose is only twice as great.

*Aconite.*—The dose of this drug is half a grain; that of the extract, one-sixth of a grain, or a third as large An eighth of a grain would bear the proper relation to the dose of the drug.

*Camphor*—The spirit is one-tenth as strong as the drug, but its dose is only five times as large.

*Cimicifuga*—The dose of the extract is a little more than a fourth that of the drug, but it is not likely that the yield of extract is in so large a proportion.

Regarding these solid extracts, it would appear to be highly desirable that they should be reduced to the powdered form and so adjusted that they shall bear a fixed ratio to the drug itself.

## SUBSTITUTES FOR ALCOHOL IN MEDICINES.

BY H. C. FULLER.*

Some two years ago it was suggested to the writer that it would be worth while to investigate the possibility of developing some substitute or substitutes for alcohol as solvents and preservatives in medicinal preparations. The investi-

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gation appeared to be timely on account of the rapidly increasing restrictions accompanying its use, and because of the misapprehension of its purpose in medicines, by the laymen and officials of reform movements.

Alcohol possesses a combination of solvent and preservative properties shown by no other solvent heretofore in general use, a comparatively weak toxicity, and a reasonable cost when not burdened with excessive taxes. Furthermore, it imparts no disagreeable flavor or odor to the preparation containing it.

There are two broad classes of liquid medicinals in which alcohol is employed, those for internal and those for external use. In the former the alcohol has, of late years, functionated in amounts of seldom over 20 percent, but in the latter, owing to the presence of essential oils and resinous constituents, it may run from 35 percent up to 80 or 90 percent.

In developing non-alcoholic formulas certain essentials have to be borne in mind. The finished product must contain the therapeutic agents on which its efficacy depends, it must be palatable or at least it must not be repulsive to the patient, it must resist the usual forms of spoilage, it must withstand extremes of temperature without damage either to itself or its container, and it must hold its appearance on standing over a prolonged period of time.

The fundamental idea in this problem is to develop finished products which are non-alcoholic, but in discussing it with others it has been noted that there is often a misconception as to what is involved. The use of alcohol in the different stages of manufacture leading up to the finished product is often necessary and desirable. The broad statement is sometimes made that medicines cannot be prepared without the use of alcohol. This is partly true, but the statement is misleading, because while it is often necessary to use alcohol in the development of a formula, it is not always necessary to have it remain as an ingredient of the finished medicine.

In the researches which we have conducted, covering a vast number of different products, it has been demonstrated that no hard and fast rule can be applied for developing non-alcoholic formulas. What happens in the case of one combination may be, and usually is, entirely different from what happens in the case of another. Often the presence of one ingredient in a formula will prevent the application of the results previously obtained with other combinations, and necessitates a long series of researches and experiments to develop a set of conditions which will subdue the refractory element, or perhaps it would be better to say, which will yield a properly adjusted finality in which the element functionates.

In some medicines of low alcoholic content it has been found that glycerin as a partial solvent and a partial preservative, is a satisfactory and readily available substitute. Its employment in most cases, however, must be reinforced by other agents, both for keeping certain ingredients in solution, and to keep the product from spoiling.

There are certain types of reconstructive tonics and elixirs containing strongly combined metallic salts and alkaloidal salts, from alcohol which can be easily eliminated, and glycerin substituted, and in some cases the addition of other preservatives is unnecessary.

When we come to the vast legion of formulas containing vegetable drugs, the problem becomes complex, and, as has been already stated, each combination

is a research in itself. There are several ways of bringing about the solution of the essential ingredients and the incorporation of the extract into a finished product. With some formulas direct percolation with relatively strong glycerin menstrua, augmented perhaps with the addition of mild alkali or weak acid, depending on the nature of the drugs, will effect the desired results, and the glycerin extract can be combined with the other ingredients of the formula and the whole adjusted to the desired proportion. With others a preliminary percolation must be made with alcohol, using perhaps number one specially denatured, and the solvent recovered, the syrupy extract being taken up in the glycerin and then diluted. Again the alcoholic percolate must be mixed with glycerin and the volatile solvent recovered, on the theory that it is easier to keep something in solution than to bring it down to solid form and then try to dissolve it again.

It has been surprising to note how many vegetable drugs will yield the great bulk of the valuable constituents on which their therapeutic activity depends to water alone, and when the solvent action of water is combined with that of glycerin and other common agents, to observe how many will yield good medicines without the presence of any alcohol.

As a general proposition glycerin alone in a liquid medicine compounded with mixed drugs cannot be depended upon as a preservative. Of course, if it were used in amounts of 50 percent or more perhaps this generalization would not apply, but products containing this quantity would in few instances be practicable, and would usually differ so in appearance from the original formulas that the trade in them might be affected.

Mixtures containing sugar are difficult to preserve with glycerin, and the presence of certain drugs will support spoilage organisms even when 35 percent or more of glycerin is used. When sugar is used to give "body" to a product as well as a certain sweetness, it can be eliminated or reduced considerably by the addition of the glycerin, and where a certain degree of sweetness is essential, any reduction in this quality due to the lack of sugar can be made up by a minute amount of saccharin.

Glycerin solutions of certain drugs will often inhibit the growth of spoilage organisms for a considerable period, and then from no apparent external cause, support a healthy growth of mould. This is probably due to the production of some favorable media during aging, perhaps the hydrolysis of complex tannoids or gums and the liberation of sugar molecules, because the evaporated residues of such mixtures have an entirely different appearance from residues of the same products when freshly made.

Where the mixture contains drugs which have antiseptic properties, such as the aromatic balsams or methyl salicylate, the preservative action of the glycerin is usually sufficiently reinforced, but unless this is the case, it is often essential that benzoates, salicylates, chloretone or some other well-known preservatives not incompatible with the mixture, be added. Furthermore, pasteurization has been found efficacious in rounding out the manufacture of a product to insure its keeping qualities.

When we come to the substitution of alcohol in products where it has been necessary to use 35 percent or more of the solvent, an entirely different set of conditions is presented. There are very few of the well-known substances which will

dissolve essential oils, camphor, menthol and the like and still mix with water. Acetone mixes with water and has been used successfully in external remedies such as liniments and pain killers where the odor has been masked by the presence of highly aromatic oils. But there is a prejudice against its use in any remedy which might be capable of internal use owing to its supposed toxicity. From experiments recently conducted and still incomplete it would appear that the toxicity of acetone has been exaggerated, and that the reports of its toxicity may have been due to the fact that it is found in the excretions accompanying certain diseases, rather than to any actual proof of deleterious effects caused by ingestion.

The evolution of substitutes has proceeded apace. Most of the new products proposed have been discarded, because they do not measure up to the requirements. Several derivatives of glycerin appear to answer some or all of the necessary conditions such as solvent power, miscibility with water and lack of pungency, odor and toxicity. Special mention should be made of those wherein one or more of the glycerin hydroxyls have been esterified by certain inorganic acids especially the halogen acids, and by certain organic acids of the acetic series. Some of the most promising are those obtained by introducing a side chain group into the glycerin molecule, the side chain being a halogen derivative of a lower organic acid of the acetic series.

It has been asked whether the results of these researches have any practical application or value. It can be answered that they certainly have. We have on our shelves samples of several different types of liquid medicines and toilet preparations, ranging all the way from simply tonic formulas and blood purifiers where the alcohol previously functionated from 8–20 percent, to bay rums, hair tonics, mouth washes, etc., in which it was formerly necessary to use from 35–75 percent alcohol, all of which are non-alcoholic. Non-alcoholic formulas are already on the market and some manufacturers are in a position to switch to a non-alcoholic basis at their pleasure.

Many interesting side problems have arisen during the progress of the work, especially those concerned with the therapeutic efficiency of the mixture, made up with the new solvents and preservatives. Several of these problems are now being worked out in the physiological and pharmacological laboratory, supplemented by actual clinical observations. Enough has been accomplished to demonstrate the real importance of the work and its economic significances to the manufacturer of medicines.

## PHARMACOPOEIAL NOTES.*

BY JOHN K. THUM,[1] PH. M.

Without a doubt pharmacists have always appreciated and realized the importance of alcohol and the large part it plays in their vocation, but it remained for the exigencies of the Great War to make them focus their attention on it and give the matter of alcohol more serious consideration. Thoughtful pharmacists are beginning to think that the thing to do under present circumstances is experimentation with the end in view of curtailing the use and importance of alcohol

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in pharmacy. Our experience leads us to believe that quite a few preparations in the United States Pharmacopoeia could be made with less alcohol. Undoubtedly work along this line by the pharmacists of the country would be timely in view of the near approach of the Pharmacopoeial Convention; and as a stimulus to such work on the part of others we offer the result of using less alcohol in the manufacture of several much-used pharmacopoeial preparations:

*Aromatic Elixir.*—In the course of a year we use many liters of this admirable vehicle. We have revised the formula as follows and find that it is satisfactory in every way.

| | |
|---|---|
| Compound Spirit of Orange | 10.00 mils. |
| Alcohol | 110.00 " |
| Syrup | 375.00 " |
| Purified Talc | 25.00 Gm. |
| Distilled Water, a sufficient quantity to make | 1000.00 mils. |

Add the alcohol to the compound spirit of orange, then to this mixture slowly add the syrup in several portions, shaking well after each addition, and then add enough distilled water to make one thousand mils. Lastly add the purified talc and agitate frequently during twenty-four hours, at the end of which time filter through a wetted filter, returning the first portions of the filtrate until it passes through clear. As the Pharmacopoeia calls for 238 mils of alcohol, to say nothing of requiring that the filter be washed with a mixture of one volume of alcohol and three of water, it is easily seen that in the manufacture of appreciable quantities there is quite a saving of alcohol in using this revised formula.

*Compound Tincture of Gentian.*—Here we have a preparation that is classed as being a bitter tonic, useful in atony of the stomach, but in reality generally employed as a vehicle, usually used as such in the prescribing of drugs that may have a tendency to cause gastric disturbance. In the giving of mixed treatment to patients, having a specific disease, we use much of it in our institution and, naturally, any diminution in its alcoholic content would result in quite a saving. By "mixed treatment" is meant a mixture containing mercury and potassium iodide. For decades this combination has been given with the compound syrup of sarsaparilla as a vehicle, but we have learned that the compound tincture of gentian is ideal in mitigating and preventing nausea and other gastric disturbances.

The Pharmacopoeia directs that the menstruum for extracting the drugs that enter into this tincture should consist of a mixture of 100 mils of glycerin, 500 mils of alcohol, and 400 mils of water. The glycerin is added for the purpose of preventing or diminishing precipitation, which it fails utterly in accomplishing; it has been our experience that notwithstanding the presence of glycerin precipitation commences as soon as the tincture is finished. In this connection it would be well to advise that the glycerin be omitted, and the finished preparation be allowed to stand ten days and then filtered. We have found that it is possible to thoroughly exhaust the drugs by percolating them with a menstruum consisting of 400 mils of alcohol and 600 mils of distilled water. As the extractive matter is readily soluble in this menstruum, packing the drugs lightly possesses some advantage in that much of the inert matter that causes the usual precipitation is retained in the marc.

*Tincture of Cinchona and Compound Tincture of Cinchona.*—These two tinctures have always been very popular, both as a stomachic and tonic, and also as a vehicle for giving other bitter medicines such as nux vomica, etc. There is no question in my mind that cinchona can be just as easily exhausted with 50 percent alcohol as it can be with strengths ranging from 67.5 to 70 percent alcohol. Assay of tinctures made with a menstruum containing 50 percent of alcohol showed conformity to the required alkaloidal standard. We would recommend, however, that the time for maceration be increased from 24 to 48 hours.

*Tincture of Aloes.*—Besides the drug, aloes, this preparation contains licorice root. Aloes is very soluble in water; the Pharmacopoeia states that from 50 to 60 percent should be soluble in cold water; the extractive of licorice is also very soluble in cold water and the Pharmacopoeia recognizes this fact in its directions for making the fluidextract. There is, therefore, no reason why the amount of alcohol in making the tincture should not be reduced to a minimum. At present the official directions for preparing the tincture require that the drugs be macerated with diluted alcohol. We have obtained a tincture that keeps very well by macerating the drugs with a menstruum of 1 part of alcohol and 3 parts of distilled water. Comparison of this preparation with one made according to the present pharmacopoeial requirements shows no shortcomings.

*Tincture of Strophanthus.*—Now that the Pharmacopoeia permits the percolation of this drug with purified petroleum benzin, to rid it of the oil, there is no reason why the ground seed should not be extracted with a hydroalcoholic menstruum instead of pure alcohol. The U. S. P. VIII called for a menstruum of 650 parts of alcohol and 350 parts of water, and the resulting tincture is a most unsightly preparation. Removal of the oil first, however, and subsequent percolation give a tincture of fairly good appearance. We have found that it is possible to obtain even a better result by increasing the alcoholic content of the menstruum to 750 parts of alcohol and 250 parts of distilled water. This menstruum thoroughly exhausts the drug and results in a tincture containing all the characteristic activity of the strophanthus seed. It has a brownish yellow color which gives it a distinctive appearance, and its stability is everything that could be desired by the careful pharmacist.

*Tincture of Hyoscyamus.*—The United States Pharmacopoeia states that this tincture should be prepared by percolation with diluted alcohol. The British Pharmacopoeia requires 70 percent alcohol and the French Codex likewise. While it is true that extraction with 70 percent makes a very fine looking tincture, it is a needless waste of alcohol, as extraction with the official diluted alcohol answers just as well. Some experiments were made by extracting the drug with 35 and 40 percent alcohol. Neither of the preparations made with this strength alcohol showed up well pharmaceutically and the weaker strength did not assay up to U. S. P. requirements. Within a week both preparations had thrown down quite a lot of precipitate. On subsequent filtration they showed up better with appearances in favor of the one made with 40 percent alcohol. This preparation assayed up to pharmacopoeial requirements.

*Tincture of Physostigma.*—U. S. P. IX states that in making the tincture the drug should be extracted with alcohol. How it reconciles this requirement with

the pharmacopoeial requirement that in the manufacture of the Extract of Physostigma a mixture of 3 volumes of alcohol and 1 volume of water should be used as the menstruum, it is hard to say. We find that a menstruum of 3 volumes of alcohol and 1 volume of water answers admirably in making the tincture. That the drug is completely exhausted is shown by the fact that the last 50 mils of the percolate gave no precipitate with Mayer's Reagent. The finished tincture conformed to the required alkaloidal standard.

## UROROSEIN.*

BY J. ATLEE DEAN.

Indican (indoxyl-potassium-sulphate) is not the only product of intestinal putrefaction of proteins. Urorosein is of equal or even greater significance. The reporting of no excess of indican without testing for urorosein is not only a serious omission in a complete urine analysis, but misleads because it suggests no intestinal intoxication.

For some years clinicians have been paying more and more attention to the presence of ethereal salts in the urine (indicative of putrefactive decomposition of the proteins in the intestine). These salts are esters of phenol, indol, and skatol. Indican is perhaps the most widely known and easily recognized. It is readily oxidized to indigo blue, and can be shaken out with chloroform in which substance the indigo is soluble. Indican is not the only product of the decomposition of aromatic amino acids. Another equally or even more important, cromogen, can be isolated in the same manner; it is, however, insoluble in chloroform and soluble in amyl alcohol. The color of this solution is red, and indicates the presence of another ethereal salt. It has been given the name, urorosein. It is probable that urorosein is in reality indole acetic acid; that skatol is formed from urorosein, and may be one step in the formation of indole from tryptophane.

The purpose of this paper is not to study the complex chemical problems presented by these products of intestinal putrefaction; its only object is to point out the necessity of making a test for urorosein, in each specimen, at the same time that an examination for indican is made.

When we consider that our limited knowledge of these substances points to a chemical and physiological similarity with histidine, adrenaline, and the active principles of ergot, the probability develops that these ethereal salts are responsible for the production of high blood pressure, and the resulting sequelae. Having observed the importance of these substances, it matters little whether one or more are reported, provided they occurred in equal or proportionate quantities. However, a slight excess of indican is frequently encountered and an enormous excess of urorosein, or *vice versa*. In fact, in hundreds of analyses, of which we have records, no excess of indican is observed, while urorosein is present in large excess. We often observe that after a patient, who has an excessive amount of indican, is placed on a meat-free diet, the indican disappears and the urorosein remains excessive. This suggests the possibility that other proteins than found in meats, when present in the intestines in large amount, produce urorosein.

It is to be hoped that the observations set forth here will impress the laboratory worker with the importance of making tests for urorosein, regardless of whether indican is present or not. Only then will the true extent of intestinal toxemia be fully realized.

* Read before Scientific Section, A. Ph. A., New York meeting, 1919.

## WHITE PINE BARK ADULTERATED WITH ELM BARK.

BY C. O. EWING.

White pine (*Pinus alba* L.) bark is a drug concerning which we have found no previous record of adulteration. Its appearance is so characteristic that even a novice is not apt to mistake other barks for it. Furthermore, it is generally so cheap that it is not a likely subject for wilful adulteration. However, during the war an unusually strong demand arose which enhanced its market value. This may have occasioned the case of obviously intentional adulteration which we have recently observed.

A shipment received from North Carolina but collected in Michigan contained a 160-pound bale the outer part of which to the depth of about one foot consisted of genuine white pine, the interior, however, consisted almost entirely of rossed outer elm bark (*Ulmus fulva* L.). The official N. F. "Ulmus" consists of inner bark from which the outer layer has been removed, since the latter is practically devoid of mucilage cells to which the inner portion owes its virtues. The bark in question consisted mostly of cut pieces about 2 to 10 cm. wide and about 5 to 50 cm. long. The outer corky layer had been removed; where the rossing had been superficial the outer surface had a somewhat reticulated appearance. In other respects the adulterant somewhat resembled the official elm bark except that it was sometimes thicker and slightly quilled. The fracture was short except in instances where a very thin layer of inner bark was stilled attached. It had the fenugreek-like odor characteristic of elm bark.

While the appearance of the adulterant, except as regards color, was only remotely suggestive of white pine and should normally be detected, it is conceivable that other bales similarly adulterated may have found access to the market in a ground or powdered state, and we have, therefore, deemed it advisable to call our observation to the attention of the trade. Fortunately, the monoclinic prisms of calcium oxalate characteristic of elm bark are so striking that its presence can readily be detected by microscopic examination.

ANALYTICAL & RESEARCH LABORATORY,
UNITED DRUG COMPANY.

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## ANALYSIS OF SOLUTION OF MAGNESIUM CITRATE.*

BY JOSEPH L. MAYER.

This paper presents methods of assay for solution of magnesium citrate, devised with a view of modifying the U. S. P. method without sacrificing accuracy, which are more expeditious and provide for the use of less elaborate apparatus than is commonly thought necessary for making gravimetric determinations.

(*a*) A bottle of Solution of Magnesium Citrate, obtained in the open market, was analyzed for its magnesium content by the following method, which is that of the U. S. P.

"Transfer 10 mils of solution of magnesium citrate, accurately measured, to a platinum or porcelain dish, evaporate to dryness, and ignite until most of the carbonaceous matter has

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* Read before Scientific Section A. Ph. A. New York Meeting, 1919.

burned off. Add to the residue 20 mils of diluted hydrochloric acid, heat on a water bath for fifteen minutes, filter if necessary and wash the residue thoroughly with hot water. To the combined filtrate and washings, which should measure about 100 mils, add an excess of sodium phosphate T. S. (about 20 mils) then add ammonia water gradually, with constant stirring, until slightly alkaline, allow to stand for ten minutes; add 30 mils of ammonia water, and allow to stand for twelve hours. Collect the precipitate on a filter, wash it with dilute ammonia water (1 volume of ammonia water to 3 volumes of water) until 10 mils of the washings, when acidulated with nitric acid, yield not more than an opalescence on the addition of a few drops of silver nitrate T. S. Dry and ignite to constant weight."

Before measuring the 10 Cc. required in the analysis, the solution was poured back and forth from one vessel to another until the gas was expelled and in this manner it was easy to measure the quantity of solution to be assayed. The U. S. P. neglects to call attention to the necessity of freeing the solution of gas before measuring; if this is not done it is impossible to accurately measure the solution. The ammonium magnesium phosphate was collected on asbestos in a Gooch crucible employing suction to filter; the precipitate was heated over an ordinary Bunsen burner and over a Meker burner and the results were identical.

The analysis showed the presence of 1.567 grammes MgO per 100 Cc. The solution was evaporated and ignited in a platinum dish such as is employed for milk analyses. It is practically impossible to successfully make the analysis unless platinum is employed, but realizing the fact that students and pharmacists are not provided with platinum ware and that even though the Pharmacopoeial directions for the assay make it optional to use porcelain, I made another analysis in which evaporation and ignition were omitted but instead the following method was employed:

(*b*) Ten Cc. of the gas-free Solution of Magnesium Citrate was added to a beaker which contained diluted hydrochloric acid and about 80 Cc. water and from this stage the U. S. P. method was followed.

The precipitate was filtered through asbestos on a Gooch crucible employing suction, after which it was heated over a Bunsen burner. The analysis showed the presence of 1.600 grammes MgO per 100 Cc.

(*c*) Another 10 Cc. of the solution was then measured and the analysis carried out as under (*b*) with the exception of the fact that in place of filtering through asbestos in a Gooch crucible a 9 cm. Baker and Adamson quantitative filter paper was employed. The analysis showed the presence of 1.636 grammes of MgO per 100 Cc.

(*d*) Ten Cc. of the solution analyzed by method (*b*) employing qualitative filter paper to filter the precipitate on and making all weights on a Torsion Balance showed the presence of 1.575 grammes MgO per 100 Cc.

(*e*) Ten Cc. of the solution analyzed by method (*b*) but employing qualitative filter paper and making all weights on a hand scale such as is employed by students showed the presence of 1.629 grammes of MgO per 100 Cc. The conditions here were practically those under which students in large sections work.

(*f*) Ten Cc. of the sample analyzed by method (*b*) modified to allow the material to stand only 4 hours instead of 12 hours as directed by the Pharmacopoeia showed the presence of 1.650 grammes MgO per 100 Cc.

(*g*) Following the suggestion of Schmitz (Treadwell and Hall's "Quantitative Analysis," Vol. 2, 4th edition, page 434) for the estimation of phosphoric acid by means of magnesium mixture, 10 Cc. Solution of Magnesium Citrate were placed in a beaker, 15 Cc. saturated solution of ammonium chloride were added, the solution acidified with hydrochloric acid, 15 Cc. sodium phosphate solution added and the whole heated to boiling; 2.5 percent ammonia was then added very slowly with constant stirring until a precipitate began to form and then the addition of the

ammonia was regulated so that about 4 drops were added per minute until the odor of ammonia persisted. The solution was then allowed to cool, one-fifth of its volume of concentrated ammonia was added and at the end of ten minutes the material was filtered through asbestos in a Gooch crucible using suction. The washing, drying and ignition was conducted as in the other analyses. The analysis showed the presence of 1.531 grammes MgO per 100 Cc.

The following is a summary of results by the various methods:

(*a*) 1.567 grammes MgO per 100 Cc.
(*b*) 1.600 grammes MgO per 100 Cc.
(*c*) 1.636 grammes MgO per 100 Cc.
(*d*) 1.575 grammes MgO per 100 Cc.
(*e*) 1.629 grammes MgO per 100 Cc.
(*f*) 1.650 grammes MgO per 100 Cc.
(*g*) 1.531 grammes MgO per 100 Cc.

The mean of these results is 1.595.

### CONCLUSIONS.

(1) These results clearly indicate that pharmacists and students who lack the facilities of the well-equipped laboratory can with the apparatus at hand in the drug store or laboratory, secure results which are practically the same as those obtained by the employment of more elaborate apparatus.

(2) That if necessary, the time required to make the assay can be much shortened.

(3) That the results obtained are practically the same whether the magnesium is determined in the original sample or in the ash resulting from evaporation and ignition.

(4) That it is more convenient and consumes less time to determine the magnesium in the original sample.

RESEARCH & ANALYTICAL LABORATORIES
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## THE STANDARDIZATION OF VETERINARY BLISTERING OINTMENTS.

BY GEORGE E. ÉWE.

The proportion of active ingredients in a veterinary blistering ointment as determined by chemical analysis, is not in direct ratio to the blistering power of the ointment. The reason for this is, that while analysis reveals the total amount of active ingredients, yet, only the effect of a variable and sub-total amount of the active ingredients is exerted in the actual blistering operation. The effect of the total amount of the active ingredients is impractical of attainment, because of the limitations surrounding the employment of a product, requiring contact in its use.

Since chemical analysis is not in direct ratio to the blistering power of ointments, a system of chemical and physical control of manufacture coupled with physiologic tests on the finished product is to be preferred.

### CHEMICAL CONTROL OF MANUFACTURE OF BLISTERING OINTMENTS.

This consists essentially of analytical chemical control of the strength and purity of the ingredients used in manufacture. Some of the more commonly employed active substances are Cantharides (both Russian and Spanish variety), *Mylabris Cichorii* (or Chinese Blistering Fly), turpentine, glacial acetic acid, and red mercuric iodide.

In addition to the active substances, the constituents of the ointment bases also require analytical chemical control by appropriate methods.

The methods of analysis and standards for active substances used in veterinary blistering ointments:

Cantharides (Russian and Spanish): Methods of analysis: U. S. P. IX—Standard: Not less than 0.6 percent Cantharidin (U. S. P. Standard).

*Mylabris Cichorii* (Chinese Blistering Fly): Method of analysis: U. S. P. IX method for Cantharides—Standard: Not less than 0.6 percent Cantharidin (arbitrary standard).

Turpentine, glacial acetic acid, red mercuric iodide: Methods of analysis and standards: U. S. P. IX.

Constituents of ointment bases: Methods of analysis and standards: appropriate sources.

PHYSICAL CONTROL OF MANUFACTURE.

Checking system: This consists of an elaborate system of receipts, checks, and double checks employed by pharmaceutical manufacturing companies to insure that the finished product contains all of the ingredients and the proper amount of each as directed by the formula of the product.

Physical steps in manufacture: These include proper subdivision of the active ingredients when solid (for instance, Cantharides); proper mixing of the active ingredients with the base to form a uniform, homogeneous product of standard color, odor, and consistency; proper temperature and proper agents to insure that the maximum active constituents of the active ingredients are fully represented in the finished product (for instance, heat and acid in connection with fatty bases are required to insure the extraction of the cantharidin, the active constituent from the cantharides).

PHYSIOLOGIC TESTS OF FINISHED PRODUCT.

Physiologic tests of finished veterinary blistering ointments, before the ointments are issued to the trade, are necessary in order to insure success in use of the ointments by the veterinarian in actual practice. In making tests, it is necessary that the conditions of the tests simulate those employed in actual veterinary practice.

The following method has proven very satisfactory: Test animal: The Horse; using at least two or three different horses in order to eliminate the variation due to varying thickness of the skin of different horses.

Preparation of test animal: The area to which the ointment is to be applied is thoroughly cleaned and clipped. The area employed is usually the hock or gluteal muscles.

Application of test: The ointment is vigorously rubbed into the prepared area and observations are made at various times up to four or five days.

The effects to be noted are:

A—Amount of swelling.

B—Amount of exudation.

C—Sensitiveness of the area.

D—Whether the hair falls out or not.

In addition, an observation is to be made whether the hair comes back or not.

Standard: The effects produced by a standard blistering ointment of the same formula as the ointment undergoing test and which has been proven to possess excellent blistering power by repeated practical physiologic tests as described above.

A typical physiological report on a satisfactory blistering ointment is herewith reproduced as a matter of interest:

VETERINARY BLISTERING OINTMENT—LABORATORY NO. —.

*Effects.*

| Horse No. 1. | Horse No. 2. | Horse No. 3. |
|---|---|---|
| A—Slight swelling | A—Slight swelling | A—Slight swelling |
| B—Small vesicles | B—Exudate | B—Vesicles |
| C—Sensitive | C—Sensitive | C—Sensitive |
| D—No hair removed | D—Practically no hair removed | D—No hair removed |

Conclusions: A satisfactory blistering ointment.

SUMMARY.

Chemical analysis alone is not satisfactory as a means of standardizing blistering ointments, because the effect of the total amount of active ingredients is not exerted, owing to the limitations surrounding the employment of a product requiring contact in its use.

The standardization can be accomplished by chemical and physical control of manufacture of the ointments, coupled with physiologic tests on the finished product.

Detailed methods of chemical and physical control of manufacture and of physiologic tests on the finished products are described.

I am indebted to Dr. H. K. Wright of the Biological Laboratories of the H. K. Mulford Company, at Glenolden, Pa., for the details of the physiologic method outlined above.

PHARMACEUTICAL LABORATORIES,
H. K. MULFORD COMPANY,
PHILADELPHIA, PA.

## CHINESE CANTHARIDES (*Mylabris Cichorii*). A WORTHY CANDIDATE FOR ADMISSION TO THE U. S. P.[1]

BY GEORGE E. ÉWE.

Previous to the World War, the Russian and Spanish Cantharides of the U. S. P. were practically exclusively employed in medicine. One of the minor effects of the war was to cut short supplies of U. S. P. Cantharides, so that recourse had to be made to the use of Chinese Cantharides, which was readily available, and which was vaguely believed to approximate in activity the official Cantharides.

This forced use of Chinese Cantharides has resulted in the accumulation of a sufficient amount of evidence to warrant the statement composing the title of this communication.

This evidence embraces the following attributes of this material: External use, internal use, cantharidin content, pharmaceutical behavior, price, and availability.

[1] Credit is due Dr. H. K. Wright of the Biological Laboratory of the H. K. Mulford Company at Glenolden, Pa., for conducting the physiological tests on veterinary blistering ointments, mentioned in this communication.

EXTERNAL USE.

Cantharides is used externally for its rubifacient and blistering action, and for this purpose is usually prepared in ointment form.

Numerous physiological experiments conducted at the Biological Laboratories of the H. K. Mulford Company, Glenolden, Pa., have conclusively proven that weight for weight the activity of Chinese Cantharides is equivalent to Cantharides of the U. S. P.

In carrying out the experiments, the U. S. P. and Chinese Cantharides were converted into ointment form, all of the ingredients and the quantities of ingredients of the ointment being exactly the same, except for the use of U. S. P. Cantharides in the one case and the Chinese variety in the other.

The manner of conducting the comparative physiological experiments is indicated in a separate communication to this JOURNAL.[2]

In general, the process consisted of applying the ointment to a clipped area of the skin of a horse, following, in general, the conditions commonly employed in the practical use of veterinary blistering ointments, and noting and recording the following effects:

A—Amount of swelling.

B—Amount of exudation.

C—Sensitiveness of the area.

D—Whether the hair falls out or not.

At least two or three tests on different horses were made in order to eliminate the variation due to the varying thickness of skin of different horses.

This method of testing the activity of blistering ointments made with U. S. P. Cantharides has been in use for a considerable length of time by the company with which I am connected, and numerous lots of these ointments made with U. S. P. Cantharides had been tested and passed as satisfactory, previous to the necessity arising for the use of the Chinese variety. These numerous tests established a standard of activity for blistering ointments, which acted as a basis for comparison when it became temporarily necessary to employ Chinese Cantharides.

A few typical reports of physiologic tests on blistering ointments made with Spanish Cantharides of U. S. P. are given here as a matter of record and interest:

BLISTERING OINTMENTS MADE WITH SPANISH CANTHARIDES.

*Ointment No. 1.*

*Effects.*

| Horse No. 1. | Horse No. 2. | Horse No. 3. |
|---|---|---|
| A—Slight swelling | A—Slight swelling | A—Considerable swelling |
| B—Vesicles | B—Small vesicles | B—Large number of vesicles |
| C—Sensitive | C—Sensitive | C—Sensitive |
| D—Hair did not fall out | D—Hair did not fall out | D—Large quantity of hair came out |

Conclusion: A satisfactory blistering ointment.

Horse No. 2 possessed a very thick hide. Cantharides used in this ointment assayed 0.967 per. cent cantharidin by the U. S. P. method.

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[2] Preceding paper: "The Standardization of Veterinary Blistering Ointments," by George E. Ewe.

*Ointment No. 2.*

*Effects.*

| Horse No. 1. | Horse No. 2. | Horse No. 3. |
|---|---|---|
| A—Slight swelling | A—Slight swelling | A—Slight swelling |
| B—Vesicles | B—Vesicles | B—Large amount of exudation |
| C—Sensitive | C—Sensitive | C—Sensitive |
| D—Some hair came out | D—A little hair came out | D—Some hair came out |

Conclusion: A satisfactory blistering ointment. The cantharides used in this ointment assayed 0.645 percent cantharidin.

*Ointment No. 3.*

*Effects.*

| Horse No. 1. | Horse No. 2. | Horse No. 3. |
|---|---|---|
| A—Slight swelling | A—A little swelling | A—Slight swelling |
| B—Small vesicles | B—Large exudate | B—Small vesicles |
| C—Sensitive | C—Sensitive | C—Sensitive |
| D—No hair removed | D—A little hair came out | D—No hair removed |

Conclusions: A satisfactory blistering ointment. The cantharides used in this ointment assayed 0.685 percent cantharidin.

A few typical reports of physiologic tests on blistering ointments made with Chinese cantharides are also given here as a matter of record and interest, and also for a comparison of the effects with the effects yielded by the ointments made with the cantharides of the U. S. P.

BLISTERING OINTMENTS MADE WITH CHINESE CANTHARIDES.

*Ointment No. 1.*

*Effects.*

| Horse No. 1. | Horse No. 2. | Horse No. 3. |
|---|---|---|
| A—Slight swelling | A—Slight swelling | A—Slight swelling |
| B—Small vesicles | B—Exudate | B—Vesicles |
| C—Sensitive | C—Sensitive | C—Sensitive |
| D—No hair removed | D—Practically no hair removed | D—No hair removed |

Conclusions: A satisfactory blistering ointment. The cantharides used in this ointment assayed 0.834 percent cantharidin by U. S. P. method.

*Ointment No. 2.*

*Effects.*

| Horse No. 1. | Horse No. 2. | Horse No. 3. |
|---|---|---|
| A—Considerable swelling | A—Considerable swelling | A—Considerable swelling |
| B—Copious exudate | B—Copious exudate | B—Copious exudate |
| C—Sensitive | C—Sensitive | C—Sensitive |
| D—Some hair removed | D—Some hair removed | D—Some hair removed |

Conclusions: A very active blistering ointment. No permanent scar resulted. The cantharides used in this ointment assayed 0.965 percent cantharidin.

*Ointment No. 3.*

*Effects.*

| Horse No. 1. | Horse No. 2. |
|---|---|
| A—Slight swelling | A—Slight swelling |
| B—Small vesicles | B—Small amount of exudate |
| C—Sensitive | C—Sensitive |
| D—No hair removed | D—No hair removed |

Conclusions: A satisfactory blistering ointment. The cantharides used in this ointment assayed 0.667 percent cantharidin by the U. S. P. method.

Numerous other lots of ointments made with Chinese Cantharides, containing 0.6% more of cantharidin, have been made and tested physiolgically with perfectly satisfactory results.

Practical veterinarians accept blistering ointments made with Chinese Cantharides, and properly labeled, when ointments made with U. S. P. Cantharides are not readily available, and use them with perfect success in their practice.

The tincture and fluidextract of cantharides are also employed, to some extent, externally for rubifacient or vesicant effect, particularly on humans. No specific comparisons of the effects of tincture and fluidextract of U. S. P. and Chinese Cantharides for these purposes were obtained in this investigation, but thousands of pints of properly labeled tincture and fluidextract of Cantharides, some of which was, no doubt, diverted to rubifacient and vesicant use, were used during the period of shortage of U. S. P. Cantharides with perfect success and without complaint of activity. The United States Government also used a considerable quantity of Tincture of Chinese Cantharides during the shortage period.

### INTERNAL USE.

Cantharides is used internally for its diuretic, aphrodisiac, and emmenagogue effects[3].

No specific evidence of the comparative values of U. S. P. and Chinese Cantharides, for internal use, was obtained during this investigation, but, as mentioned above, a very large quantity of tincture and fluidextract of Chinese Cantharides was employed with perfect success and with evidently satisfactory activity during the period of shortage of U. S. P. Cantharides, and it appears to be likely that much of these preparations was used for these internal medical purposes. However, the need for scientifically controlled clinical tests is not to be disputed.

### CANTHARIDIN CONTENT.

The U. S. P. limits the use of U. S. P. Cantharides to that which yields 0.6% or more of cantharidin by the U. S. P. method of assay. No definite standard has been laid down for Chinese Cantharides, but a standard similar to the U. S. P. standard for U. S. P. Cantharides will also insure the use of a satisfactorily active Chinese Cantharides.

Colledge[4] reported a canthaidin content of 1.20% in "Chinese Blistering Fly." Eldred and Bartholomew[5] reported Chinese Cantharides with cantharidin contents of 1.246%, 1.359, and 1.362%, respectively.

Culbreth[6] reported "Chinese Blistering Flies" as containing between 1 and 1.7% cantharidin.

Warner[7] reported a cantharidin content of 0.426% in Chinese Cantharides.

Maisch[8] reported Chinese Cantharides with a cantharidin content of 1.016%.

Fahnestock[9] reported the cantharidin content of Chinese Cantharides as 1.25%.

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[3] Culbreth's Materia Medica and Pharmacology.

[4] Colledge, W. C., *P. J. & P.*, May 26, 1916, p. 674.

[5] Eldred, F. R. and W. C. Bartholomew, Proceedings A. Ph. A., 1907, p. 360.

[6] Culbreth's Materia Medica and Pharmacology, p. 627.

[7] Warner, W. R., *A. J.*, *38*, p. 195.

[8] Maisch, Proceedings A. Ph. A., 1872.

[9] Fahnestock, *A. J. P.*, 1839.

Merck's 1907 "Index" gives the cantharidin content of Chinese Cantharides as between 1 and 1.2 percent.

It will be noted that of these figures, only that reported by Warner is lower than the present standard for U. S. P. Cantharides.

These laboratories have corroborated these reports of the higher cantharidin content of Chinese Cantharides. This corroboration is shown by the following data extracted from the Annual Reports of the Committee on Drug Market of the Pennsylvania Pharmaceutical Association, for the years mentioned, which data was contributed to the Reports by these Laboratories:

REPORT FOR THE YEAR 1913.

"Chinese Cantharides." Two samples assayed 0.91 and 1.03 percent, respectively, of cantharidin; thus running considerably higher than the variety sold as Russian, which averaged in our Laboratories during the past year 0.604 percent (21 samples).

Powdered Chinese Cantharides differ in appearance from the Russian variety only in color. Aside from this, there would seem to be no reason why the Chinese variety should not be employed as its vesicatory power, as tried out in veterinary practice, is good.

*Cantharides, Russian.*

| No. of Samples. | Lowest Assay. | Highest Assay. | Average. | Standard. | Above. | Below. |
|---|---|---|---|---|---|---|
| 21 | 0.292% | 1.150% | 0.604% | 0.6% Cantharidin | 12 | 9 |

REPORT FOR THE YEAR 1914

*Cantharides, Russian.*

| No. of Samples. | Highest Assay. | Lowest Assay. | Average. | Standard. | Above. | Below. |
|---|---|---|---|---|---|---|
| 5 | 0.75% | 1.06% | 0.91% | 0.6% Cantharidin | 5 | 0 |

Cantharides, Chinese: The 18 lots examined varied between 0.11 percent and 1.95 per cent, the average being 1.16 percent Cantharidin.

REPORT FOR THE YEAR 1915.

*Cantharides, Chinese.*

| No. of Samples. | Lowest Assay. | Highest Assay. | Average. | Standard. | Above. | Below. |
|---|---|---|---|---|---|---|
| 6 | 0.570% | 1.10% | 0.869% | 0.6% Cantharidin | 5 | 1 |

*Cantharides, Russian.*

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | 0.625% | 0.625% | 0.625% | 0.6% Cantharidin | 1 | 0 |

REPORT FOR THE YEAR 1916.

*Cantharides, Chinese.*

| No. of Samples. | Lowest Assay. | Highest Assay. | Average. | Standard. | Above. | Below. |
|---|---|---|---|---|---|---|
| 5 | 1.09% | 2.20% | 1.46% | 0.6% Cantharidin | 5 | 0 |

REPORT FOR THE YEAR 1917.

*Cantharides, Chinese.*

| No. of Samples. | Lowest Assay. | Highest Assay. | Average. | Standard. | Above. | Below. |
|---|---|---|---|---|---|---|
| 6 | 0.73% | 1.14% | 0.86% | 0.6% Cantharidin | 6 | 0 |

REPORT FOR THE YEAR 1918.

*Cantharides, Chinese.*

| No. of Samples. | Lowest Assay. | Highest Assay. | Average. | Standard. | Above. | Below. |
|---|---|---|---|---|---|---|
| 3 | 1.08% | 1.90% | 1.60% | 0.06% Cantharidin | 3 | 0 |

REPORT FOR THE YEAR 1919.

*Cantharides, Chinese.*

| No. of Samples. | Lowest Assay. | Highest Assay. | Average. | Standard. | Above. | Below. |
|---|---|---|---|---|---|---|
| 3 | 0.667% | 1.29% | 0.933% | 0.6% Cantharidin | 3 | 0 |

The average cantharidin content shown by the 27 lots of Russian Cantharides was 0.713 percent while that of the 43 lots of Chinese Cantharides was 1.123 percent so that as far as Cantharidin content is concerned, Chinese Cantharides is quite superior to U. S. P. Cantharides.

### PHARMACEUTICAL BEHAVIOR.

The only practical difference in pharmaceutical behavior is influence in the color of the finished products. In powdered condition, as employed in ointments, Chinese Cantharides is brownish in color, whereas Russian Cantharides is greenish brown, and Spanish Cantharides is brownish green. In fluid preparations, the difference in color is more striking, as Chinese Cantharides produces brown preparations, whereas the U. S. P. varieties produce different shades of greenish brown colored preparations. The influence of this difference in pharmaceutical behavior can be eliminated by recognition of the Chinese variety only; by specifying the variety to be used in specific U. S. P. preparations, or by including *Mylabris Cichorii* as a distinct addition to the U. S. P., and as a worthy succedaneum for the present varieties. This latter course finds its precedent in the U. S. P. recognition of ammonium, potassium, and sodium iodides, all of which are employed primarily for their iodide content, and any one of which is a worthy succedaneum for any of the others.

### PRICE.

Chinese Cantharides has been much cheaper than U. S P. Cantharides for years. For the past three years, the quotations for Chinese Cantharides have been around $1.00 per pound, while U. S. P. Cantharides have been around $4.25 per pound.

### AVAILABILITY.

The price quotations mentioned above are fair evidence of the ready availability of Chinese Cantharides. During the World War, the ready availability of this variety was more striking, because of the more or less involvement of the countries from which U. S. P. Cantharides are derived in the War, whereas the countries which are the source of *Mylabris Cichorii* were but little affected. The only likely hindrance to availability of this product is involvement of the countries, which are the source of the product, in a great war, but this is as true of the source of U. S. P. Cantharides as of Chinese Cantharides.

### SUMMARY.

Chinese Cantharides (*Mylabris Cichorii*) is suggested as a worthy candidate for admission to the U. S. P. Its claims for admission are based on the following comparisons with the present U. S. P. varieties:

External Use: Vesicating and rubifacient power is equal to that of the present U. S. P. varieties.

Internal Use: The evidence is offered that the medical profession has employed a tremendous quantity, with apparently perfect success and without complaint of activity. Scientifically controlled clinical comparisons would be preferable to the evidence offered.

Cantharidin Content: On the average, is 50 percent greater than that of the present U. S. P. varieties.

Pharmaceutical Behavior: Similar, except color. Methods of overcoming influence of this difference are suggested.

Price: Chinese Cantharides has been cheaper for years. During the past three years, the price has been only one-quarter as much as U. S. P. Cantharides.

Availability: Enjoys ready availability. Future availability is subject to the same limitations as U. S. P. Cantharides.

PHARMACEUTICAL LABORATORIES,
H. K. MULFORD COMPANY,
PHILADELPHIA, PA.

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## SHALL WE REORGANIZE THE AMERICAN PHARMACEUTICAL ASSOCIATION?

BY FRANCIS E. STEWART.[1]

It has been suggested that the American Pharmaceutical Association be reorganized and become a delegate body governed by a House of Delegates made up of representatives of the drug trade and proprietary medicine interests; and that the fact be recognized that what we call pharmacy as now carried on is a purely commercial business and that all claims to the contrary are pretense and camouflage.

I am writing this paper to protest against the reorganization of the American Pharmaceutical Association upon any such plan for I believe that such a move would be one of retrogradation. It is, of course, true that what we call pharmacy is not a profession but a commercial business and that the teaching of the colleges of pharmacy in this respect is unwarranted by existing conditions. It is also true that pharmacy has been for centuries unsuccessfully attempting to secure recognition as a profession, and, therefore, further attempts appear to be useless. But I do not believe in giving up the attempt. What we call pharmacy can never obtain recognition as a profession. Until pharmacy becomes a profession in fact professional recognition can never be attained. One of the problems which the American Pharmaceutical Association was organized to solve is how to make pharmacy a profession. It would seem to me far more important for us to unite in a study of the subject for the purpose of solving this important problem than to throw up the sponge and acknowledge ourselves vanquished by reorganizing the A. Ph. A. and making it a commercial body.

It has always been my opinion that the reason why we have never succeeded in solving the problem is because we have never gone about it in the right way. Pharmacy is inherently and historically a branch of medical science and practice and, therefore, can never become a profession independently of the medical profession. As well cut off a man's head and expect his body to go around and attend to business as to expect pharmacy to exist as an independent profession.

We should, therefore, turn to the history of the medical profession to learn about the true professional ideal in relation to pharmacy. I am suggesting the study of the *history* of the medical profession rather than to hold up the profession as it now exists as an ideal for us to follow. The medical profession is becoming "commercialized" and is forgetting the true professional ideal. The medical pro-

[1] A Committee on Reorganization, consisting of F. E. Stewart, *Chairman*, J. A. Koch and S. L. Hilton, was appointed by President L. E. Sayre.

fession is consequently losing the high esteem it once held in the mind of the public. We can, therefore, take the later history of the medical profession as a warning.

The professions of theology, law and medicine originated in the priesthood. The priests ministered alike to the bodies, souls and estates of their parishioners. They were lawgivers and administrators of the law. They were physicians and administrators of medicines, and they were interpreters of the Divine Will, and dispensers of religious consolation.

As civilization advanced and knowledge accumulated, the several vocations practiced by the priests gradually segregated, resulting in the establishment of the three so-called "learned or liberal" professions. They were called "learned" because in ancient times most of the learning was confined to the priests. They were called "liberal" because the priests rendered their services without fees, obtaining their living from the Church. It will therefore be noticed that the service of the ancient physician was an altruistic service. The question of money-making did not enter into it. In process of time, when medicine and law were separated from the Church, it became necessary for the physician and lawyer to obtain an income from some other source. Hence, came into vogue, first the honorarium system, and then the fee system.

An honorarium, as defined by Webster's dictionary, is "An honorary payment or award, usually in recognition of gratuitous or professional services, on which custom or propriety forbids any fixed business price to be set, or for which no payment can be enforced at law, as in case of counsel in Great Britain and in some of the United States, and in case of some physicians in England."

The amount of the honorarium depended upon the gratitude of the patient and the size of his pocketbook. Consequently, the amount of money received by the practitioner was of an uncertain quantity, and the income very irregular.

The "fee" system therefore took the place of the honorarium system. A fee is defined by Webster as "a reward or compensation for services rendered or to be rendered, especially payment for professional services, of optional amount or fixed by custom or laws, as the fees of lawyers and physicians."

You will note the words "optional amount or fixed by custom or laws." Generally speaking, the physician's fee is optional in amount, although fixed more or less by custom, and sometimes fixed by law. The "optional amount" character is, of course, inherited from the "honorarium" system, the idea being that the value of professional services cannot be measured in terms of dollars and cents.

The pharmacist to be a professional man must be in a position to render professional service, and obtain financial reward for the same over and above the charge for the medicine he has to sell as a purely commercial commodity. It does not take a pharmaceutical education to qualify a person to hand out ready-made goods to a customer and to receive pay for the same. Any unlicensed clerk can do this just as well as an educated and licensed pharmacist. But it does require pharmaceutical education of a high order to qualify a pharmacist for the vocation of selecting, preparing, compounding and dispensing of medicine to meet the demands of rational drug therapeutics as practiced by educated and competent physicians. The compounding of physicians' prescriptions is, therefore, a professional service; and the same applies to the manufacture of pharmaceutical preparations and the standardization of drugs and finished products by chemical assay and pharmacodynamic tests. For this kind of service the pharmacist should receive a professional compensation.

One of the most important of all professional services rendered to any profession is research work and the donation of the results of the same to the profession for the building up of the science upon which the profession depends. The importance of this service in relation to pharmacy becomes very clear when the following professional and scientific requirements pertaining to materia medica products and their preparations are considered.

PROFESSIONAL AND SCIENTIFIC REQUIREMENTS.

The following statement expresses what I mean in relation to professional and scientific requirements pertaining to materia medica products and their preparations.

1. Professional and scientific requirements demand that every drug or chemical used as medicine, and every preparation of the same, shall be properly identified and correctly named.

2. That the source or genesis, physical, chemical, physiological and therapeutic properties, methods of standardization, and proper dosage and usage, of all medicinal drugs, chemicals, and preparations of the same, shall be published for the benefit of medical science, so that this knowledge may be freely used by physicians and pharmacists in the practice of their respective vocations.

3. That this knowledge shall be classified in the form of science and protected by changeless nomenclature; that it shall be incorporated in scientific literature, including pharmacopoeias, dispensatories and other textbooks, and taught in professional schools and colleges and by the professional press.

4. That when a new materia medica product is invented or discovered, it shall be christened with a name by which it may be known and dealt in; that such name shall be free to the common use of all who have a right to manufacture and deal in the product; that such name shall not be exclusively controlled by any person, firm or corporation; that in case a manufacturer of the product shall decide to use a word trademark, it shall be employed to distinguish his brand of the product from other brands of the same product; and that each brand of the product shall appear on the market under a name common to all brands of the same; and, in case a patent shall be granted, the application shall strictly conform to the law which requires the same to contain the working formula, also that the monopoly shall be limited to the period of 17 years—the period named in the patent law.

5. That standards shall be devised and maintained to determine the identity, character and strength of the product, and, that such standards shall be protected and enforced by law as now illustrated by national and state pure food and drug laws in their relation to the United States Pharmacopoeia and National Formulary.

6. That persons shall be especially educated, trained and licensed to practice pharmacy and drug therapy, and that such practitioners shall be organized in medical and pharmaceutical associations, having the power to create and maintain codes of ethics for the proper control of such practice, and possessing the power to revoke by due process of law, the license to practice by persons who neglect to observe the rules laid down by the professions engaged therein and embodied in the medical and pharmacy laws.

7. That pharmacy and drug therapy shall be conducted as closely related and mutually dependent branches of medical science and practice; that the practitioners of these important vocations shall work in coöperation with a common object, namely, to prevent disease and heal the sick, each profession working in its special field of practice.

Both classes of practitioners must be guided in their practice by common rules of conduct in their relations to each other and the public at large. Such coöperation can only be secured and maintained under a professional, fraternal or coöperative system in which all concerned donate full knowledge of the results of their researches and experiences to the common fund of knowledge and share alike in the results of this coöperative work.

As before stated, pharmacy has been for centuries vainly attempting to secure recognition as a profession. It is evident from the above that pharmacy can never secure recognition as a profession until the practice of pharmacy is conducted in conformance with the professional ideal upon which the practice of medicine was originally founded. Medicine in all of its departments must be conducted as an altruistic vocation in which the making of money must be and remain a secondary object. Therefore, pharmacy can never be recognized as a profession until it adopts the altruistic ideal upon which the practice of medicine was originally based. This altruistic ideal is embodied in the Hippocratic Oath.

The following brief history of the origin and development of so-called pharmacy may prove interesting and instructive in this connection.

## THE ORIGIN OF TRUE PHARMACY.

There are two conceptions extant concerning the origin of pharmacy, one being that pharmacy originated in the medical profession, being a mere development of that part of the vocation of the physician practiced in earlier times when the physician's apprentice prepared the medicines used by his master in treating the sick.

The other view is that pharmacy developed from the vocation of the old-time apothecary, who, according to the most ancient records, existed and practiced his art long before Moses led the Children of Israel out of the wilderness.

Both of these views contain a large element of truth, as a reference to the history of the development of pharmacy in England well illustrates.

In ancient times the physicians dispensed their own medicines, which were prepared for them by their apprentices. The apothecary's vocation existed separately, and the apothecary dispensed his herbs and ointments to an ignorant and credulous public, recommending them as specifics and cures for disease.

The materia medica in those days consisted of a collection of the most heterogeneous kind, as you all know. According to the practice of those days, the more disgusting the remedy, the more efficacious it was.

In the year 1215, the priests were forbidden by the Church to practice any surgery which involved bloodshed, on the principle that the Church abhors the shedding of blood; and about one hundred years later, all surgery was forbidden them. Thus began the division between drug therapy, medicine and surgery, which has lasted until the present day. But the physician still continued to prepare and dispense his own medicines, so that drug therapy and pharmacy were practiced by the same individual.

In the meantime, chemistry as a science had made strides and as the nature of medicines from a chemical standpoint began to be appreciated, pharmacy became more and more complex.

The apothecaries in those days were members of the Guild of Grocers, and the vocation did not partake of a professional character. The apothecary, however, commenced to perfect himself in the knowledge of chemistry, and pharmacy, because of its complexity, gradually separated itself from the practice of the physician and was relegated to the apothecary. In the reign of James I, the apothecaries separated from the grocers and received the first charter of their own.

When the monks ceased to practice surgery, the barbers, who had acted as their assistants, gradually stepped into their shoes, and a class of barber surgeons, mostly ignorant in the extreme, arose and practiced alongside of the surgeons proper. In the fourteenth century, this state of affairs existed. But, in the sixteenth century, medicine, being still largely in the hands of the ecclesiastics, Linacre, a celebrated divine and physician to Henry VIII, founded in England the present College of Physicians, which, together with Oxford and Cambridge Universities, where medical schools had been established, received authority over all three branches of medical practice.

A very significant point may be noticed here, and that is, whereas physicians were qualified for their degree by study at universities, surgeons and apothecaries obtained their qualifications by apprenticeship, so that the surgeon and apothecary were placed in the same social rank as tradesmen or members of other crafts, while physicians had the higher social standing of the learned professions.

In the seventeenth century, during the reign of James I, the Society of Apothecaries was founded. Membership in this society required seven years' apprenticeship, and under its beneficent influence, the apothecaries grew more and more important. Then, in 1666, during the great plague in England, the apothecaries distinguished themselves for their courage and humanity. There were many physicians who stood nobly at their posts and many more who fled in terror. In consequence of the courage displayed by the apothecaries and the cowardice of those physicians who proved recalcitrant, the sick fell back upon the apothecaries and summoned them from their shops to prescribe for them. In the year 1703, a legal decision in England suddenly exalted the apothecary by giving him the right to prescribe medicines in that country, though he was given no right to charge any fee for his services, relying entirely on his medicines for profit.

In 1745, the surgeons emancipated themselves from the barber surgeons, with whom they had amalgamated in 1540, and now formed the College of Surgeons. Since that time surgery has been steadily advancing until it now ranks with medicine, and in the estimation of many practitioners, outranks it.

PHARMACY IN THE UNITED STATES.

The principal advances in the pharmaceutical field in the United States cannot be understood without reference to the work of Dr. John Morgan, of Philadelphia. Dr. Morgan was the first teacher of the theory and practice of medicine, materia medica, pharmacy and pharmaceutical chemistry in America. He founded the first Medical Society in the Province of Pennsylvania, and was one of the founders of the American Philosophical Society, was Director-General and Physician-in-Chief of the American hospitals during the Revolutionary War, and was responsible for the separation of the practice of pharmacy from that of drug therapy in this country, which occurred approximately in the year 1774.

The history of the founding of the first medical school in America by Morgan and the ultimate effect on modern pharmacy resulting from Morgan's teaching have never been given proper consideration.

Watson, in his Annals of Philadelphia, mentions but six drug stores existing in that city in 1750. The few that were not owned by physicians were devoted exclusively to the supplying of medicines to the medical profession and to the sale of such household remedies as the housewife could gather herself in the fields or cultivate in her own garden. Physicians invariably dispensed their own medicines, and these were usually prepared by their apprentices. These apprentices, by runnnig errands, gathering herbs, preparing and dispensing medicines, and attending to other and at times even menial duties about the houses of their masters, were expected in the course of six or seven years of their apprenticeship, to absorb sufficient knowledge of physic to open a shop and practice for themselves.

Morgan was thoroughly imbued with the expediency of separating the dispensing of medicines from the practice of the therapeutic art, and used all of his influence to accomplish that object. The College of Physicians of Edinburgh as early as 1754 adopted an Act that prohibited their Fellows and Licentiates from taking upon themselves to use the employment of an apothecary, or to have or to keep an apothecary shop. As a Licentiate of this college, Morgan was under obligations to teach and practice in accordance with the ethics of that institution.

Morgan's argument in favor of separating the practice of medicine from pharmacy related to the commercial character of the drug business. In his estimation, professional services should consist in the rendering of advice by the physician, and the performing of surgical operations by the surgeon—services which did not require the practitioner to deal in material substances as a merchant. He argued that the primary object of the merchant was to make money, that of the physician to prevent disease and heal the sick, the making of money being a secondary consideration.

Dr. Morgan's plan did not meet with the approval of his contemporaries, even such of them as had attained a medical degree abroad. It was not until 1774 that he had even a single follower. His first follower was Dr. Abram Chovet, of Philadelphia, and he was followed by Dr. John Jones, who had received a part of his medical education in that city, and became the first professor of Surgery in the New York Medical School, and subsequently published what is probably the first comprehensive surgical work written in this country.

In Morgan's time, there was no United States Pharmacopoeia, and the condition of the materia medica supply business was most unsatisfactory. It therefore became quite necessary for the medical profession to adopt some plan for the standardization of the materia medica, so that the knowledge of materia medica, pharmacy and drug therapeutics might be properly classified and taught in the medical and pharmaceutical colleges. Morgan's pioneer work did much to promote the cause of true pharmacy, but his teaching and example were not sufficiently influential to result in the adoption of common standards for drugs and medicines.

The importance of the Pharmacopoeia in binding the medical and pharmaceutical branches of medicine together and coördinating their practice can only be

realized in the light of the above statement of professional and scientific requirements. The history of the origin and development of the United States Pharmacopoeia is one of the greatest values in this connection and, therefore, worthy of a place in this discussion.

### THE U. S. PHARMACOPOEIA.

The necessity for some definite standard for prescribing was commencing to be felt in 1778, and there was published in Philadelphia a small pharmacopoeia for the use of the Military Hospital of the United States Army, located at Lititz, Lancaster County, Pennsylvania.

The same necessity for common standards for fixing the character and quality of medicines impressed the medical profession of Massachusetts, and on October 3, 1805, the Councilors of the Massachusetts Medical Society appointed a committee to draft a pharmacopoeia, adapted to the special wants of their section of this country. An attempt was made to make this work National, without success.

In 1815, the physicians and surgeons of the New York Hospital appointed Dr. Samuel L. Mitchell and Dr. Valentine Seaman a committee to prepare a pharmacopoeia for the use of that institution. This was issued in 1816 and enjoyed for some years authority of more than local character.

In January, 1817, Dr. Lyman Spalding, of New York City, submitted to the Medical Society of the County of New York, a project for the formation of a National Pharmacopoeia; the plan provided that a convention should be called in each of four districts into which the country was to be divided, the same to be composed of delegates from all the medical societies and schools situated within each of them. Each District Convention was to frame a Pharmacopoeia and to appoint delegates to a General Convention to be held in Washington. To this General Convention, the four district Pharmacopoeias were to be taken and from the material thus brought together a National Pharmacopoeia was to be compiled.

Dr. Spalding's plan was approved by the Committee to which it was referred and subsequently through the agency of the Medical Society of the State of New York it was carried into effect.

After various vicissitudes, the two Pharmacopoeias prepared in the Northern and Middle Districts were submitted to examination, compared in detail and their contents with such additions as were thought necessary, consolidated into one work, which after full revision was adopted by the General Convention, and ordered to be published by a Committee appointed for that purpose, of which Dr. Lyman Spalding was chairman. It was published in Boston, Dec. 15, 1820, in both the Latin and English languages, a second edition appearing in 1828.

It will be noted that the United States Pharmacopoeia was founded by the medical profession. The first revision was published in 1831, and also was exclusively a physicians' pharmacopoeia. Previous to adjournment of the Convention of 1831, arrangements were made for another convention to occur in 1840, which convened at Washington, D. C., on the first Monday in January of that year. This convention authorized the Committee of Revision to request the coöperation of the Colleges of Pharmacy in the United States. Valuable assistance was rendered the Committee by the Colleges of Pharmacy of Philadelphia, Boston and New York. The following revisions of the Pharmacopoeia came more and more under the control of the so-called pharmaceutical profession and the Pharmacopoeia largely developed along pharmaceutical lines.

The limits allowed for my paper have already been exceeded. However, before bringing the paper to a conclusion, permit me to refer to the influence of colleges of pharmacy upon the development of the professional ideal, and also to the influence of pharmaceutical legislation.

### INFLUENCE OF COLLEGES OF PHARMACY IN DEVELOPING THE PROFESSIONAL IDEAL.

In 1821, the friends of pharmacy organized and established the Philadelphia College of Pharmacy, which became an important factor in pharmaceutical education. The medical profession took much interest in this institution and some of the most prominent physicians connected with the educational interests in America

are to be found in the list of the members of its faculty. The practice of pharmacy, under the influence of the Philadelphia College of Pharmacy, became more and more professional in character. Graduates of this institution established themselves in various parts of the United States and founded similar institutions.

The influence of the colleges of pharmacy of the United States upon pharmacy has, of course, been most excellent. But the graduates of these institutions have never been classed as members of the learned professions. This is doubtless due in part to want of proper standardization of pharmaceutical education, and in part due to the character of the vocation itself.

First, in regard to the standardization of pharmaceutical education. Several years ago I had an interesting interview with a Commissioner of Education of one of the greatest States of the Union. He told me that the pharmacists of his state had asked to be recognized as a profession. To this he replied:

> Pharmacy should be recognized as a profession, but it cannot be so recognized until it becomes a profession in fact. To obtain recognition it is necessary for the educational system of pharmacy to conform with University requirements pertaining to education in the other recognized professions. The University degrees, bachelor, master and doctor, must represent the same degrees of education in pharmacy as in medicine and the other professions. Then, the profession itself must be conducted in a professional manner, that is, the vocation must conform to the rules adopted by the profession for its practice, and these rules must be of the same character in relation to the practice which distinguishes the other professional vocations.

## INFLUENCE OF PHARMACEUTICAL LEGISLATION.

In 1852, the first attempt to regulate the practice of pharmacy by law in England, was made. History tells us that at this time the pharmacist was an "object of scorn by the public authorities of the day and of deep suspicion by the medical profession," therefore a Pharmaceutical Society was organized "for the purpose of protecting the permanent interests and *increasing* the *respectability* of chemists and druggists."

In 1868, further legislation was inaugurated. The legislation of 1852 and 1868 carried into law the aim of the founders of the Pharmaceutical Society in relation to the "educational fitness" of the pharmacist, and thus did much to raise the social standing of the vocation. But the vocation never reached the dignity of a liberal profession like law, theology and medicine.

## CONCLUSIONS.

Centuries of honest endeavor have not been sufficient to raise pharmacy to the dignity of a profession, either in Great Britain or this country. The founding of pharmacopoeias in Great Britain and in the United States, while a move in the right direction, did not accomplish the purpose. The good work of the pharmaceutical societies, and the colleges of pharmacy, have not yet accomplished it. Legislation has not been equal to the task.

As we have already learned, surgery was relegated to the barbers and thus degraded. But surgery was redeemed by the medical profession and became one of the most important branches of medical practice. Pharmacy was relegated to the apothecaries, who at that time recommended and dispensed their headache cures, cough cures, kidney cures, and the like, to a wondering and credulous public. When printing was invented and utilized for obtaining publicity by advertising,

the retail nostrum business of the apothecary developed into the great patent and "proprietary" medicine business of to-day.

Surgery finally became a profession by separating itself from the barbers and becoming a part of the medical profession. Is not this a lesson for us to learn? The only way for pharmacy to ever become a profession, is to separate itself from the nostrum business and become affiliated with the medical profession as a branch of medical science and practice.

It has been proposed that the American Pharmaceutical Association be reorganized as a delegate body, controlled by a house of delegates. The precedent of the American Medical Association is pointed out as an illustration in favor of this. It is pointed out that for many years the A. M. A. was a small body with very little influence. After its reorganization it became very powerful, having a decided influence upon medical legislation.

The reorganization of the A. Ph. A. as a delegate body, controlled by delegates from state pharmaceutical associations, all the affiliated bodies working together under a code of ethics containing rules for the guidance of pharmacists in their relations to each other, to the medical profession, and to the public, might indeed accomplish great things for legitimate pharmacy. But a house of delegates, made up of delegates from druggists' associations, representing the commercial drug business and the manufacturers of nostrums medicines, would degrade pharmaceutical practice still further. Believing as we do, that this matter is of great importance and should be thoroughly discussed before any serious attempt is made to reorganize the A. Ph. A., I would suggest the advisability of appointing a committee to take the entire subject of reorganization under consideration at this time.

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## ESSENTIALS OF ACCOUNTANCY FOR PHARMACISTS.*

BY CHARLES B. COUCHMAN.

Of the many things with which a man may be concerned, one of the greatest importance is "making a living."

To accomplish this feat a man has but two implements, two producing factors —property and effort. In the latter term is included the physical or the mental labor—the special skill or knowledge which a man may have and exert.

Since the making of a living seems at the best more or less precarious, a man should exert as efficiently as possible every quality he may possess which will aid in the desired result. He endeavors to make his effort as productive as possible. If he chooses Pharmacy as his profession, that is, as the channel through which his efforts will pass to reach the desired result, then by long study and practice he endeavors to make his skill and knowledge such that his efforts will be as remunerative as possible.

If, in addition to his effort, he possesses some property to aid him in the struggle, or, if from the returns from his efforts he thriftily accumulates a surplus so that his efforts may be supplemented by at least some wealth, it evidently becomes his next concern to see that this property also becomes as productive as possible.

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* Read before Section on Commercial Interests, A. Ph. A., New York meeting, 1919.

A person, therefore, has two immediate desires from the commercial standpoint—that each unit of effort and each unit of wealth may produce the greatest amount of profit; in other words, may aid as much as possible in the process of making a living.

These principles are general and apply as much to the pharmacist as to the manufacturer or the grocer or the attorney.

While in any profession the commercial must ever be secondary, and the rendering of a service to others must be the primary consideration, yet even in professions it is recognized that it is not unethical to give some consideration to the commercial; that, in fact, a consideration and application of proper commercial principles enlarge the usefulness and efficiency of the professional service instead of conflicting with it.

In few professions is this more true than in pharmacy, where custom is decreeing that for one to practice pharmacy at all he must be supported by a very definite commercial organization with a larger proportion of capital than in most other professions. If the pharmacist renders the full service that is expected of him in a community, it is necessary for him not only to know the science of pharmaceutical practice but to combine with this knowledge an amount of capital sufficient to provide proper materials, proper equipment, and the facilities demanded by this exacting age.

The doctor, the lawyer, and the accountant may carry on their professions almost entirely through personal service, but the pharmacist is expected to supplement personal service by an inventory of supplies and salable commodities equalling that of most retail merchants, together with all the equipment and staff which such service necessitates. Further, the scope of these supplementary activities is constantly enlarging until in many communities the pharmacist is expected to function not only as practitioner, but also as postmaster, perfumer, dispenser of refreshments and dealer in many articles of general merchandise.

To avoid the financial pitfalls of all these activities requires a considerable foundation of common sense and a thorough knowledge of the elements with which one must deal.

As a result, the pharmacist's success, which means the continuance of his opportunity to render helpful service to others, depends to a considerable extent upon his ability to handle a commercial organization. This and his professional skill are the factors wherefrom he must make his living; and the two are quite inextricably woven together. The man who does not handle his capital efficiently and who finds himself unable to carry the proper stock is not best fitted to serve professionally. The man deeply worried by financial troubles and the meeting of the high cost of living is not in the best spirit to fill a prescription. The man who through lack of proper information regarding his business has allowed it to become badly scrambled, or the man who broods on the insufficiency of the financial rewards of his labors and investment without knowing what to do about it, is not the man best fitted to serve the community in the way expected of a pharmacist. The man who finds himself facing more or less serious disaster because of the violation of some rule or principle of law or economics or finance, the very existence of which he did not realize, is not in the frame of mind to appreciate fully professional opportunities.

It is, therefore, for the professional good and the mental morale, as well as for the financial success of the individual, that pharmacists should know the fundamental principles governing the successful maintenance and operation of the very things with which they are daily concerned in carrying on their work.

They should be able to realize just what information concerning the financial condition and progress of their business can be of use to them, just how these facts can be accurately determined, and just how they may be utilized for the furtherance of their welfare. They should know the principles of the laws with which they are constantly in contact or which they will probably face in ordinary business life. They should understand the fixed principles of economic life which are the basis of commercial existence.

It is the province of accountancy to deal definitely with these things, both as to theory and also as to the procedures whereby they may best be put into practice. Accountancy is far more than bookkeeping. Bookkeeping is a part of the actual procedure whereby certain facts are recorded, analyzed, and summarized. But the most essential part of accountancy is the determining of the particular information to be obtained by these analyses and summaries, and the proper utilizing of this information for the good of the business.

It is evident, then, that familiarity with bookkeeping methods alone is of little advantage to a business man. The mechanical grinding out of facts that are not used is of little value. Knowledge of how to use the facts is of great value. If a man masters principles, procedures will work themselves out.

Therefore, the essentials of accountancy which are of chief interest to the pharmacist are those that will enable him properly to safeguard such property as he may have, to secure effective control over it and over the activities of those who work under him, to discover which phases of his business are most profitable and which least profitable, to ascertain the most effective distribution of his working capital as to stock of merchandise and to less productive equipment, the best methods for increasing his working capital or increasing its effectiveness—in short, those principles which will enable him with a given amount of capital to produce the maximum of effective result in the way of service and profit.

This must include an adequate system for recording cash, for handling C. O. D.'s, for depositing receipts in bank, for making all payments so far as practicable by checks. The system for handling personal accounts, both receivables and payables, must supply him readily with whatever information he may need with regard to them, must provide proper follow-up and collection methods with regard to receivables, and must prevent overpayment or duplicate payment of invoices or failure to take full advantage of discount opportunities. This necessitates at least the equivalent of ledgers for each class.

The pharmacist's system must provide complete records of all his assets and his liabilities, with all changes therein recorded through one or more books of original entry. It must furnish adequate records of the sources of his profits and the classification of the costs of producing these profits to enable him to supply accurate figures for income tax purposes and also for comparative purposes to test the efficiency of his operations. Nothing short of double entry can supply these with certainty, nor provide sufficient check against errors either intentional or unintentional, errors of omission and errors of commission.

His system should enable him to determine whether certain supplies should be purchased in dozen lots or gross lots or great gross lots and should give him ample check upon merchandise ordered but unfilled, upon merchandise in stock, its location, its cost price and its selling price, and the amount to reorder.

In short, the pharmacist's financial system should be builded so snugly about his business that no financial fact of importance can slip through and escape detection, and yet it must be such that it can be operated without taking too much time from productive business. The goal is to obtain the maximum of control over the business end of usable information regarding it with a minimum of effort, but with certainty.

A more detailed discussion of these principles is not feasible in a brief paper of this kind, but I desire to emphasize three facts:

First, any course in Commercial Pharmacy, to be of value to the pharmacist, must be far more than a course in bookkeeping. It must be a training in the real elements of commerce.

Second, such a course is also of greatest value to the under-clerk in pharmacy, for the greater his understanding of these principles, the greater will be his usefulness to his employer, and the greater his opportunity for advancement.

Third, in this day of constantly increasing financial demands, when the cry of everyone to his fellows is for "more! more!" it becomes the duty of every man not only to himself but to his community to master the laws of efficiency and thrift, so that with the wealth and effort at his disposal he may render the most effective service with the minimum of waste and irksome labor.

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## 1820—A BIT OF HISTORY.*

There is no periodicity in the great events which mark the march of human progress. Only happenings correlated to the seasons keep step with the calendar. And when history repeats itself—which it never does except with variations—even numbers of years, or odd numbers, or decimal multiples, have no special significance—of course not.

But it is true that the year 1820 was in many respects like the present—1920. The chronicles of that early period seem strangely modern. We find reference to high prices, labor disturbances, to unstable equilibrium in business affairs, political unrest, and evidence, in Europe particularly, of that abnormal attitude of mind which in our time has led to overt acts on a large scale, and has received a Russian name. The fact is, after a hundred years Europe and America, both, again are passing through a period of convalescence following the exhausting distemper, war. In 1820, as at present, Europe was battle-scarred—then as a result of the campaigns of Napoleon. America was battle-scarred, too, for the burning of Washington and the victory of New Orleans were still discussed as recent happenings. Men had gone to war: some had not returned. Many industries had been ruined. America in 1920 can realize the conditions which obtained a hundred years ago. In 1914, America could not have done so.

But despite conditions seemingly so unfavorable, the period of 1820 marks a glorious renaissance in science and art. In literature, during the war period,

* Extracts from an address by J. W. Sturmer, before the Philadelphia Branch, at the January meeting.

or immediately thereafter, Moore, Shelley, Wordsworth, Keats, Byron, DeQuincy, Scott, Coleridge, Lamb, Goethe, Victor Hugo, were producing masterpieces; yes, and Washington Irving, and J. Fenimore Cooper. It was the era of the romantic movement, the greatest manifestation of literary genius since the era of Shakespeare.

Of composers there were Beethoven, and Shubert, and Mendelssohn, and other masters of the first rank. It was a golden age in music.

In science, there were Berzelius, Humphrey Davy, Faraday, Cuvier, Dalton, Drummond, Gay Lussac, Proust. It was the dawn of the modern productive era of science, which has continued to the present time, making the last hundred years the most prolific in discovery in the history of the human race.

True enough, every sequence is not necessarily a consequence. And wars in the past have not without exception been followed by a notable advance in the conquest of nature. But who will question that the great war exploits which terminated with Waterloo and New Orleans did not stir to the depths the emotions of men, inspiring writers, composers, painters, and also men of science, and in the latter awakening latent imaginative faculties, so useful in research? And if this be true, may we not expect that the stupendous struggle so recently ended will also be followed by a pronounced quickening of creative and inventive genius? And, if so, we may be sure America will furnish its generous share in results.

In 1820, America could not be expected to figure prominently in art or science. Our country was new. The population was largely rural. A considerable portion was distributed over vast areas but sparsely settled, where life was rather primitive, and where men were hard put to it to provide the elemental needs—food, clothing, shelter—then medical service for the sick, rudimentary schooling for the children. And when the scientists of the old world were engaged in extending the frontier of human knowledge, many of our resourceful Americans were engaged in pushing the frontier of the white man's civilization westward. In 1820 the great migration over the Indian trails, which had been transformed into roads, was in full swing. On the Conestoga Road, the covered wagons of the travelers, headed for the land of mystery, adventure, opportunity—the West—were as numerous as the stannic Lizzies on our mountain roads during the summer months of more recent years. These men who with their families, their lares and penates, were moving toward the setting sun, were principally farmers. But with them traveled the carpenter, the mason, the blacksmith, the miller and the millwright, the merchant, the doctor, and the apothecary. When a town of some size had developed, in due course, there appeared the apothecary shop, and the ring of the pestle proclaimed that medicines were being prepared *secundem artem*. And who will say that the inventive genius displayed by our pioneer doctors and apothecaries, in adapting limited resources to many and diverse needs, was not—in certain instances at least—as great as that of many a European research worker who by virtue of his better facilities succeeded in getting results which warranted their being recorded in the annals of science?

This was a truly heroic period in our country's history: it was the period of nation building, the various phases of which absorbed a large share of the energies of energetic men—the men with initiative. "In the four quarters of the

globe, who reads an American book? or goes to an American play? or looks at an American picture? What does the world yet owe to American physicians and surgeons? What new substances have their chemists discovered, or what old ones have they analyzed?" Thus wrote Sydney Smith in the January number of the Edinburg Review in the year 1820. We need not take issue with him, although he was seemingly quite ignorant of American progress. Indeed, we may admit frankly that books of the first rank were not yet numerous. Odysseus was too busy to devote time to the composing of Odysseys. But some promising youngsters were playing marbles in American school yards—Whittier, Longfellow, Emerson, Hawthorne, Holmes—to mention a few; and in this year of the Missouri Compromise, 1820, the author of the Gettysburg address was doing his chores on a primitive Indiana farm.

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American science and American art were in the formative period. There were houses to erect, bridges to build, canals to dig, roads to be made passable. Just as American literature was principally political in character, American science was largely applied science, and art, industrial. As for the pharmacist, he was busy in providing the most necessary medicaments, and had—speaking generally—as yet no time for scientific experimentation.

We must not overlook the fact, however, that at a time when America as a whole was still in the pioneer stage, the older and more densely populated districts near the Atlantic seaboard had attained to a high degree of culture. Here we find the colleges and universities of that period, and the learned societies, and the literary organizations and the book publishers. It is here that we must look for the first developments in Pharmacy.

In 1820, Philadelphia, which had served as the national capital, and where all the great Americans of the early days had sojourned, the largest city in the country at that time, with 130,000 inhabitants, an important seaport, in close touch with the old world civilization—Philadelphia, the seat of a university, and of the Institute founded by Franklin—became, as a matter of course, a center of learning. And medical sciences found here a particularly favorable atmosphere for development. And hand in hand with the progress in medicine, we find early progress of pharmacy.

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—To be sure the apothecary of 1820 was practicing his art as it had been developed in Europe. If he was American-born, he had, in all probability, received his training under an apothecary who had in turn been an apprentice in a European pharmacy. If he was a rather recent accession to the population, he used, as a matter of course, the methods and the textbooks of his native land. The pharmacopoeias of London, Edinburg and Dublin were at that time in constant use. Uniformity of practice was conspicuous by its absence; for there was no pharmacopoeia as yet for this new nation; nor were there any purity standards for drugs or medicines. As for legislative regulations governing the practice of pharmacy, no laws of that character had as yet been passed. There were neither pharmaceutical organizations nor pharmaceutical journals. The important text-

books for pharmacists, with the exception of the American Dispensatory, then already in its fourth edition, were foreign.

The drugs which the apothecary had on his shelves were imported; and so were his bottles, his jars, and in fact, even his window-panes, which made up his odd little show-windows. At this time, when Fulton's great invention, the steamboat, was still a novelty, and the word sailor still had its original meaning, the Delaware harbored ships from the most distant shores. And the inventories of cargoes, as published in the old-time newspapers, include a large and varied list of drugs. It is from these inventories, in fact, that one may best reconstruct the old-time drug stock, for very few indigenous medicinal plants had received recognition. Here are some of the drugs which were deemed important in 1820—for they were obtained from overseas in large quantities: Aconite, Aloes, Asafetida, Belladonna, Benzoin, Camphor, Cantharides, Capsicum, Castile soap, Cinchona, Colchicum, Colocynth, Copaiba, Cubeb, Ipecac, Gamboge, Licorice Root, Licorice Extract, Hyoscyamus, Jalap, Lobelia, Myrrh, Nux Vomica, Opium, Rhubarb, Castor Oil, Sarsaparilla, Scammony, Squill, Tolu, Tragacanth, Valerian, Veratrum Album, Veratrum Viride, Ginger. Yes, the general aspect of the 1820 drug store, with its old-fashioned shelf-ware, was odd enough; but the antique bottles held drugs which have retained their popularity to the present day.

The apothecary's stock was, however, not limited to vegetable drugs: he had a sundry supply of chemicals, as follows: Hydrochloric Acid, Nitric Acid, Sulphuric Acid, Citric Acid, Arsenic, Alum, Ammonium Chloride, Black Antimony, Barium Sulphate, Lime, Chalk, Marble, Copper Subacetate, Copper Sulphate, Prussian Blue, Iron, Sulphate Mercury, Calomel, Corrosive Sublimate, Magnesium Carbonate, Magnesium Sulphate, Lead Oxide, White Lead, Saltpeter, Potassium Carbonate, Cream of Tartar, Salt, Borax, Sodium Carbonate, Sodium Sulphate, Zinc Carbonate and Zinc Sulphate. His stock included the elements, Antimony, Bismuth, Copper, Iron, Mercury, Lead, Zinc, and Sulphur. These chemicals he bought, for they were even then produced industrially.

But many chemicals now made exclusively on the industrial scale were early in the nineteenth century made by the apothecary in his own little laboratory. To be sure, there were some then, as at present, who chose to buy rather than to manufacture. But the list of chemicals actually made in stores at that time is surprisingly large, and included the following: Solution of Ammonium Acetate, Tartar Emetic, Solution of Magnesium Bicarbonate, Silver Nitrate, Solution of Potassium Arsenite, Subnitrate of Bismuth, Lead Plaster, Iron Acetate, Iron Carbonate, Iron Oxide, Red Oxide of Mercury, Subsulphate of Mercury, Potassium Acetate, Rochelle Salt, Sodium Phosphate, Ointment of Mercuric Nitrate, Zinc Acetate, and Zinc Oxide.

Of pharmaceutical preparations there was a large and varied list. It included Medicated Waters, Medicated Wines, Medicated Honeys, Medicated Vinegars, Spirits, Infusions, Decoctions (made when required), Tinctures (made by maceration), Solid Extracts, Mixtures (some of which were Emulsions), Liniments, Ointments, Cerates, Plasters, and Pills and Powders, and Confections.

It is indeed strange that the furniture and shelf-ware and equipment of the apothecary should have become in a hundred years so strikingly antique, while

the materials which he dispensed, and with which he worked, should to so large a degree have continued in use, uninterruptedly to the present day! How many drugs in the old inventories of ship cargoes are now obsolete? Very few. And as to preparations, note how many have passed through nine pharmacopoeial revisions, experiencing radical alterations, but not deletions.

It is a common error to picture the apothecary himself as an aged recluse, sitting at his desk, dressed in medieval garb, with steel-rimmed spectacles on his nose, "dandruff on his coat collar and a far-away look in his eye"—sitting there inactive, surrounded by alembics and other gimcracks of the alchemists' stage properties—a man with whom we have nothing in common. For then, as at present, men were old, or young, or middle-aged; and they exhibited many variations in personality. But we may be quite sure that the apothecaries of 1820, living at a period of great activity, when stirring events were transpiring, when political interest was keen, when Philadelphia was conspicuously progressive, when the men of the hour were men of action—that these old-time pill rollers lived an active and full life, with varied interests and that they were factors in this community.

But they indited no books. They published but little. The histories of Old Philadelphia fail to chronicle their doings. Their shops and stocks have disappeared. The very buildings in which they lived and worked have, in many cases, made room for larger structures of modern architecture. Yes, the old apothecaries of Philadelphia have vanished. "Like streaks of morning clouds they have melted into the infinite azure of the past."

The beginning of a new year always induces a retrospective mood, and it may even lead us to read history. But why should we have a particular interest in 1820, aside from the interest which attaches to a time an even hundred years ago? The fact is, 1820 marks the close of an epoch. It marks the time when pharmacy, until then wholly dominated by European thought and precedent, awakened to its opportunity and struck for a certain independence. That very year the first national pharmacopoeia was issued. A few months later, in Carpenter's Hall, the first organization of apothecaries was formed. And a few months after that, this organization—The Philadelphia College of Apothecaries—opened its doors to the first class of American students in pharmacy.

Hence, 1820 has a special significance for pharmacy. What 1776 is to us as Americans, 1820 is to us as American pharmacists.

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## SYMPOSIUM ON SCIENTIFIC PHASES OF U. S. P. REVISION.*

CHARLES H. LAWALL: As Chairman of the Revision Committee and one who has been associated with the work during the past ten years, I have been asked to express to you some of the features, some of the developments, some of the possibilities in connection with the handling of the scientific phases of U. S. P. revision work. It must be clearly apparent to any one who has studied the method of Pharmacopoeia revision that we have arrived at a time when some marked, radical changes will have to be made in the interest of speed and in the interest of the completeness of the work. The method which has been pursued for the past two decades has been largely based upon correspondence, mimeographing—tremendously voluminous, with

* Presented as part of the program of the Scientific Section, A. Ph. A., New York meeting, 1919.

all its effect of retardation. It was brought out in the symposium before the Section on Education and Legislation yesterday (August 28, 1919) that the shortest possible time for getting a vote upon a subject was in the neighborhood of six weeks, and that is entirely too long for work of such importance.

Of course, I cannot say what the next Convention will decide to do, but I feel we should formulate some plan through our Committee on Pharmacopoeial Revision, based upon the consensus of opinion, after a free and full discussion of these important topics. In the first place, I believe that the next revision should be largely handled through personal conferences. I believe that is the greatest step forward that can possibly be made. We had personal conferences of some of the sub-committees during the last revision as emergency measures and, in every instance, work was accomplished in one or two days which would have required months, had the conferences not been held. So I believe that one of the most important things that we can recommend to the Convention is the establishment of a system, whereby a group of selected men, at least, can be empowered to meet and personally thrash out and settle questions which can be handled in that way.

I have always felt that while our Committee was representative and, as was stated in the discussion yestersay, "democratic," in that it embraced examples of every phase of the body pharmaceutic, it was a pity not to be able to call for the services of men outside and give them more credit than is possible under the present method. I would favor the authorization by the Board of Trustees of the calling in of experts in different lines of scientific activity and these experts should be given the same standing in connection with the revision work as is possessed by the members of the Committee. In this way we would be able to obtain the services of men who, we know, would add luster and value to the work but who, for one reason or another, are not members of the Revision Committee. Perhaps all of the members here present do not realize that to become eligible to membership on the Revision Committee an individual must first be an accredited delegate of some one of the recognized organizations and then must be present in person at the Convention. Very good workers were debarred last time; some were not accredited as delegates and were ineligible on that account; others were accredited as delegates but were prevented by circumstances beyond their control from attending and, therefore were debarred from selection on the Revision Committee, irrespective of their qualifications. I feel that this is a defect which needs correction so that technicalities will not prevent the selection of the best possible men for carrying on the work of revision.

Those, I think, are the most important radical changes in procedure that are necessary.

So far as the scientific work of revision is concerned, I believe as in times past we are going to get the full, wholehearted coöperation of all the manufacturing and scientific interests of pharmacy. That has been very evident during the past revision; it is even more marked at the present time. Within the past six months we have sent out a notice in which we have asked for criticisms, suggestions, corrections, etc., and we have had a very gratifying response in that connection. Suggestions have been sent in by individuals from every part of the United States. During this week's meeting of the American Pharmaceutical Association the members of the Revision Committee who are present—by the way nearly half of the members of the Revision Committee have been in attendance at this week's meeting—have held a short meeting at which certain principles were decided upon in connection with drafting of general principles for recommendation to the next Convention. It was also decided that all these suggestions, which have been and will be received, are to be circularized to the entire Revision Committee, and are then to be classified and assigned to the various sub-committees. On the basis of this wealth of material reports can be drafted by the various sub-committees which will be recommendatory and which will largely prepare the way for prompt action on the part of the incoming Revision Committee.

Now it remains, of course, for this Section to express itself upon the matters, which are within its province, as to general principles and also as to specific methods of handling the work. I believe the most necessary changes, which should be made in connection with the handling of the Scientific work of the Pharmacopoeial revision, have been called to your attention.

A paper by Henry Kraemer on "Alcohol in the Pharmacopoeia," was then read. (See January JOURNAL A. PH. A., 1920, p. 55.)

## THE SCIENTIFIC PHASES OF PHARMACOPOEIAL REVISION.

BY A. R. L. DOHME.

The time is opportune for a discussion of pharmacopoeial revision for we are about to embark upon the said revision next year. The Scientific Section is a proper source of criticism and discussion of said revision, notably the scientific phases thereof.

As I see the work of revision and have seen it for the 25 years that I have been connected with it, it is not carried on in a business-like enough way, both as to its executive and scientific departments. The fellow is the most popular who always agrees and pats people on the back, and the fellow is usually the most unpopular who ventures to offer suggestions or criticism. The fellow who has the courage of his convictions, however, has the satisfaction of having done what he considers his duty when he ventures upon the field of criticism.

U. S. P. Revision needs a budget on scientific work as well as finance. Some definitely thought-out, thoroughly discussed and evolved plan to work up to in its work. This can never be done so long as the Committee is as cumbersome and unwieldy as fifty or even twenty-five. With such a large committee it is, in the last analysis, usually one or at most three men and minds that determine the policy and principles of the revision and much of its detail.

My idea is a committee of three with power to name experts and assistants to any extents needed and all paid fully and amply for their work, and they to devote all of their time to their work. It should be a duty and not an honor to be on the revision committee in any capacity.

As to the scientific phases I should suggest an advisory board of not over ten besides the Committee of Three; said advisory board to serve without other pay than their expenses and to be subject to call of the Committee, one of whom shall be its chairman in charge of the work of revision.

This committee, with its advisory board, should have at hand a complete library and literature of work done in all the lines of scientific work pertaining to the pharmacopoeia. A librarian or secretary should cull the journals and arrange each piece of scientific work under the proper heading of the U. S. P. With this in hand the Committee should decide after continuous consideration and discussion of the subject, covering probably several months, during which time all need not be present all the time, upon a plan and program of revision of each item in the U. S. P. and as well upon certain general principles of science that are fundamental for the work. These principles should cover such questions as nomenclature, atomic theory and weights; new vegetable drugs and organic chemicals to consider and study for admission; new inorganic substances to consider for admission; deletions and a careful consideration of same before action; new discoveries in science as they affect the revision; new processes that may affect the revision, etc., etc.

The pharmacopoeia revision committee has, I fear, too often followed instead of led in the matter of the adoption of new ideas or discoveries. Its own lack of inertia, and its own excessive corporosity has probably been at fault.

Before beginning the actual detail of revision as embraced in experiments and processes, the Committee should map out general plans for each class of substances and submit these as the basis of the work of the expert or subcommittee in charge of that class of substances. These plans should go further than generalities and should touch upon and affect specific items whenever the information and conclusions of the Committee justify them in doing so. This will develop uniformity of viewpoint, principles and practice in the book rather than divergence or contradiction in viewpoint, etc. Why not have the Committee of Three made up of one medical, one chemical and one pharmaceutical expert, do the deciding and general work with the details and experiments to be carried out by experts and assistants employed for that purpose. Part of their duty should be to study the field of new remedies and drugs of all kinds that seem possibly fit for admission to the U. S. P. and have their own clinical experiments made if necessary.

In particular it seems that there are many vegetable drugs notably of South America that deserve to be studied as to their therapeutic value. It would seem that it would be well and desirable to have a research committee as one of the subcommittees of the Revision Committee to whom should be assigned the duty of studying the botany, pharmacy and therapeutics of a certain number of such new vegetable drugs with an eye to their possible adoption

in the Pharmacopoeia, notably those that have been adopted in other pharmacopoeias. This research committee should be made up of qualified research chemists well paid for devoting all their time to revision research work and should work continuously year in and year out.

If the Committee is small and the experts employed on full time they might well and advantageously work in one research laboratory belonging to the Pharmacopoeia instead of having this work done, as it always has been, in the various laboratories of the country. As it is done now, conditions as to apparatus, methods of work, climatic conditions are different and in consequence not necessarily or probably uniform. A book of standards like the work of the Bureau of Standards should be worked out under standard and uniform conditions. This could be done at Washington in the Bureau of Standards under supervision of men selected by the Pharmacopoeial Convention but all working together under one roof and hence the same conditions, or in Philadelphia if deemed preferable. I am quite well aware that Philadelphia will protest against removing revision headquarters from Philadelphia, but a national book and a national standard should be national and have no local coloring or feeling about it.

## WHY DOES THE PHARMACOPOEIA?

BY WILBUR L. SCOVILLE.

Habit is a factor with organizations as with men. The habit may be small and of little consequence, but it betrays an attitude nevertheless. It also helps in making for influence.

The Pharmacopoeia shows some habits which are neither essentially "bad" nor of great importance, but which are nevertheless significant. Perhaps they have been regarded as too trivial to consider. Nobody has seemed impelled to call attention to them. Probably it isn't good manners. But I have felt inclined to forget my manners and to criticize some of the habits.

The first habit to which I object has to do with certain titles. The habit of entitling tincture of tolu as *Tinctura Tolutana* and syrup of tolu as *Syrupus Tolutanus*, for instance.

The Latin writers tell us that *Tolutanus, a, um*, is an adjective, and so must agree with the noun *Tinctura* or *Syrupus*.

That silences us laymen, but does not convince. For it is not an adjective in its application. It is a noun. The English title is right—Tincture *of* Tolu. But any Latin student in High School who would translate *Tinctura Tolutana* as "Tincture *of* Tolu" would be immediately called to account.

The Latin title for Tolu is *Balsamum Tolutanum* and even this is translated "Balsam *of* Tolu." Consistency would make the tincture title *Tinctura Balsami Tolutani*, and if we abbreviate the construction and let "Balsami" be "understood" the title would still make Tolutani agree with the (understood) Balsami and the title would be Tinctura Tolutani. That is, at least, logical.

Where did this thing start, anyway? We take a substance, called Tolu or Tolu Balsam, or Balsam of Tolu, as you prefer, and we make a tincture of it. Then we are told that this substance, from which we have prepared a tincture is not a noun, but an adjective, and the proper title must deny its objectivity. I make bold to ask why? It is many years since I studied Latin, and I was not very proficient in it when I was under its tutelage. But if one is to know, one must ask. So I ask by what right Tolu is denied its noun privileges in Latin, and accorded them in English? Some of our Latin books make Tolu a Latin indeclinable noun. Then why not adopt that? But to say that a substance is an adjective quite confuses one. I cannot account for it, except as a habit.

Another habitual title is *Tinctura Aloes* (Lat. sing.) which is translated Tincture of Aloes (Eng. plural). Is there a plurality of Aloe in the tincture? It is all the more singular since Aloe is a juice, and we rarely speak of juices when applied to a single kind.

It has taken the pharmaceutical world a generation to get over saying "Syrup of Squills," after a patient emphasis on the point by our pharmaceutical editors and teachers. But wherein is "Tincture of Aloes" any better than "Syrup of Squills?" Or if "Tincture of Aloes" is a correct or preferable title, then why is not the Latin *Tinctura Aloarum* to agree? For the Latin and the English do not now agree—thereby again confusing our High School scholars.

After some years, the Ninth Revision has finally ceased saying "Oil of Cloves"—which is logically prepared from a plurality of clove buds—and it thus breaks one habit. But "Tincture of Aloes" still remains. And Aloe (Lat. sing.) is still translated "Aloes" (Eng. plural). Is this more than a habit?

Then there are indications of new habits in names and titles in the Ninth Revision. There are instances where one title stands for two or more different things and also where there are two names for one article.

We have been taught that Pharmacopoeial titles are specific, and stand for very definite articles of definite strength or purity. But there is a break in that now. Not only does the Pharmacopoeia recognize two or more different drugs under one title—to which there can be no objection when they are of equal value—but in two instances the drugs are not regarded as of equal value.

Asafoetida is one instance. Under this title is recognized gum asafoetida which must yield not less than 60 percent of alcohol-soluble matter, and also powdered asafoetida which must yield not less than 50 percent of alcohol-soluble matter. Thus asafoetida has a standard of 60 percent or of 50 percent as one chooses. For in compounding one can employ either the gum or the powder, since they both come under one title. Both are Asafoetida. If 50 percent of alcohol-soluble material is a sufficient standard it should apply to both forms. If 60 percent is a minimum for good quality, why not insist on it? For it is the function of the Pharmacopoeia to set standards, and if the powdering of asafoetida necessarily means a lowering of the standard then why recognize the powder? It is not really needed. Pharmacists can employ the gum exclusively.

Then take Ginger. Under the title *Zingiberis* are recognized six different botanical species. Presumably these are therefore equal in value. Other drugs have two or more species recognized when they are of equal value, and that is all right. But in Ginger the Pharmacopoeia allows any or all species to be used for making oleoresin, but restricts the tincture and syrup to one species, which is designated.

Now the curious part of this is that Tincture of Ginger is the only non-standardized tincture in the list to which special tests and restrictions are applied. These are evidently designed to insure against this tincture being employed as a "booze" to which use tincture of ginger has been credited. But if the design is to restrict Tincture of Ginger to medicinal use, isn't African or Cochin or another variety as good medicinally? Isn't Jam. Ginger nearer to Jag Ginger than any other kind? As a flavor, Jamaica Ginger is the mildest and pleasantest variety. And the Pharmacopoeia specifies it for its aesthetic rather than for its medicinal qualities. And then it seeks to discourage its use as a pure flavor.

In other instances—notably Benzoin—the Pharmacopoeia recognizes two different varieties which are doubtless equal in medicinal value but very different in aesthetic value. When a few years ago the writer tried the sale of tincture of Siam benzoin in place of the established tincture of Sumatra benzoin, he soon found that this aesthetic value was not appreciated by the purchasers. Customers began to ask for "the dark kind" and sometimes to bring back "the light kind." Persistent education might have taught them to prefer the Siam variety in time, but what's the use? It is only a matter of taste anyway. Taste can be recognized, but it is not practical to regulate it, and it is slow work directing it.

In the case of the Ginger would it not be more practical to allow pharmacists to select his variety to suit his customers? Business interests will regulate such selection. And if the medicinal value of the different varieties is equal—as is implied—then the only criticism that can be made is the aesthetic. And hasn't the person who prefers a strong, hot ginger as much right to his taste as the person who prefers a mild lemon-like ginger? Isn't the question essentially parallel to personal tastes for cheese? So if the six different varieties of ginger are all acceptable medicinally it is logical to allow them to be used equally. The Pharmacopoeia allows such choice for Methyl Salicylate, Benzoin, Cannabis and other articles.

Again, speaking of titles, we wonder why chloral (Lat.) is changed to chloralum? Latin books—(pharmaceutical) have given both chloral—is—3d declension, and chloralum—i—2d declension as proper forms. We have become accustomed to the first form, and it is quite as "classical" as the second. What is gained by the change? After we have learned "chloralis," wherein is the advantage of changing to "chlorali?"

But more puzzling still is the question why the Pharmacopoeia calls the thousandth part of a liter by two names. It is either a "milliliter" or a "mil" as one chooses. Mil as an abbreviation for milliliter is logical, and makes but one term for the article. But mil as a distinct and separate word means that the Pharmacopoeia is using two separate terms for one article. If mil is a proper designation for the article, why waste type and space in writing milliliter? If mil is "short" for milliliter it is properly an abbreviation, since nicknames are hardly in keeping with the dignity of the Pharmacopoeia. A milliliter, or mil, is a definite measure of capacity and admits of no variations. There are no permissible botanical species or natural and synthetic variations in the thousandth part of a liter, so two different terms for it do not appear to be in accordance with the habits of accuracy and explicitness which has characterized the Pharmacopoeia in the past. It should be either a milliliter, abbreviated mil., or it should be a mil and the longer word discarded.

It is generally understood that mil as a word was an afterthought. The Pharmacopoeia had been put into type, and the period after this term had been forgotten. Its absence was noted, and then to avoid the trouble and expense of punctuating the thousands of mils in the text, it was decided to call it a word instead of an abbreviation.

If this is so it but illustrates the need of time to think out the myriads of questions concerned in pharmacopoeial revision, to avoid making hasty conclusions. We venture to say that the idea of having two names for one article did not occur to the revisers. Five years to revise the Pharmacopoeia seems a long time to the man who is simply waiting for it, but when the need of thorough consideration for each of the many questions is noted, then one doesn't wonder that the mills necessarily grind slowly, and even then some chaff escapes.

Another habit which still holds is the aging of Tincture of Ferric Chloride. In the days of long ago when pharmacy was more of an art than a science, and when pharmacists made Solution of Ferric Chloride for use in the tincture, they were not so particular to drive out the last traces of nitrous oxide which is formed in the reaction. This small amount of nitrous oxide, in connection with the little free hydrochloric acid, formed a fragrant ester with the alcohol in the tincture and made a riper and more pleasant tincture. But now the Pharmacopoeia requires that the active agent in forming this fruity flavor be entirely removed from the ferric chloride solution, and still imagines that the ester will be formed according to the three-months rule. But if any is formed it requires some imagination to find it. The average nose will find it doubtful, at least, and the tongue will fail to recognize it. If our drug inspectors have any method of deciding whether a given sample of Tincture of Ferric Chloride is officially aged or not, I, for one, would be much interested in learning it. But the tradition must be honored, and the tincture prepared three months in advance of its use because our fathers—well, they made a better tincture than we do, didn't they? and we must honor their method but decry their science. Is this anything more than a habit?

Well, the Pharmacopoeia has shown that it can break as well as make habits, and perhaps the new Revision Committee will turn over a new leaf in some of the above respects when somebody is bold enough to call attention to them.

## ORGANIC CHEMICALS OF THE UNITED STATES PHARMACOPOEIA IX.

BY GEORGE D. ROSENGARTEN.

In the revision of Organic Chemicals of the United States Pharmacopoeia, it has been the aim of the Committee to achieve accuracy, and in addition it has been the endeavor to employ explicitness in all statements combined with simplicity, and further to fix standards on a plane not beyond practical attainment, but affording the desired standard of therapeutic efficiency.

It may be noted that the texts of Organic Chemicals are considerably shorter, in many instances, than in the former revision. The reason for this is quite apparent, as many superfluous tests and statements have been discarded. The purpose of the Pharmacopoeia is the standardization of drugs and chemicals, and for this reason it matters not how a chemical may be produced, provided it possesses the required properties and meets the demands for purity. Manufacturing processes have therefore been omitted. A further contraction of the text was brought

about by deleting a number of superfluous identity tests, as it is evident that only such tests giving the most characteristic reactions of the substances are required, usually one or at most two may be quite sufficient, but there is no real necessity of going the limit and including tests which do not add to the value and only entail additional time and labor for no particular reason.

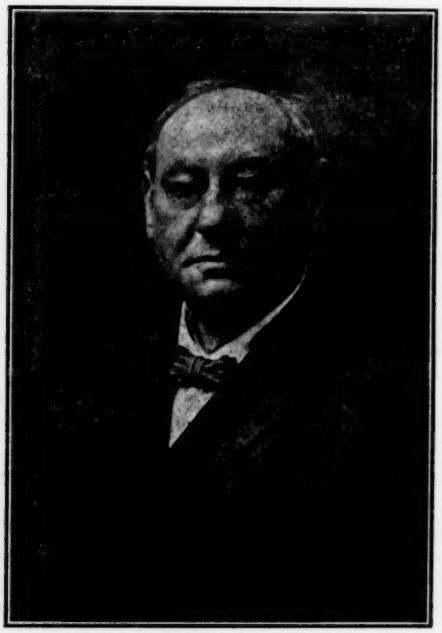
In the earlier revision the general statement under organic chemicals, that the substance on ignition wa. entirely volatile, and without residue, gave much difficulty. It is quite true that volatility on ignition is expected of organic material and theoretically correct, but it was intended only as a characteristic property and the trouble lay in the interpretation, because it is patent that if a sufficient amount of any organic substance be employed for such a test a point would finally be reached when a weighable amount of ash could be obtained. The U. S. P. IX corrected this by stating a maximum amount of residue, and the quantities of the substance used for the test were so chosen that if the ash exceeds the permitted limit it will weigh more than one milligram, a quantity which may be weighed with some degree of accuracy. Of course the greater the amount taken for this test the more readily the residue may be weighed but as many of the organic chemicals are very expensive, especially under present conditions, this test with appreciable amounts would become prohibitive. It was this consideration that led to the use of only 0.1 Gm. of such products as aconitine, atropine, homatropine, etc. A similar policy has been adopted throughout, by stating definitely the quantities of material and reagent employed in all tests.

The subject of melting and boiling points too, was replete with complications, and the subcommittee was confronted with an arduous problem. The situation in the U. S. P. is quite different from that of a research laboratory where the substance is crystallized and recrystallized and even then perhaps further manipulated before its physical properties are determined. It is not practical in the U. S. P. to give the melting points, *i. e.*, in tenths of degrees, and the reason for this is so plain that it need not be argued. It is conceded that melting and boiling points are considered very definite and fixed properties, but like every other physical, or for that matter chemical, phenomena, these "constants" are subject to certain conditions. The moisture contents of a substance, its state of division, the rapidity of heating and many other factors of manipulation, perhaps only negligible in themselves, yet collectively will certainly have a material bearing and affect results. To offset such troubles a reasonable range for these "constants" was introduced and a detailed procedure for their determination described.

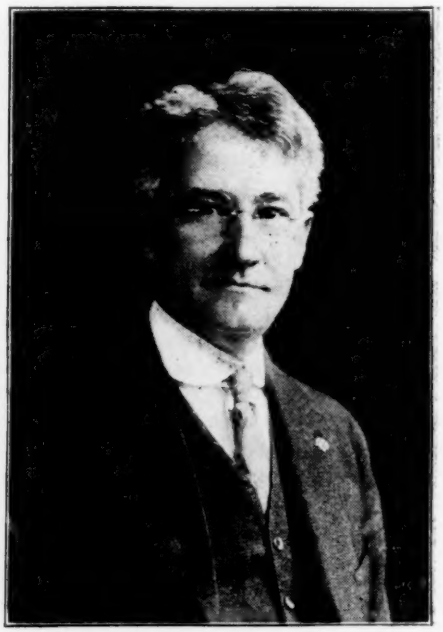
New assays have been added for a number of chemicals. Many more have been proposed and urged upon the committee. They have been all very carefully considered. It has been proposed to introduce rubrics and assays for alkaloids and their salts. This, however, has not been done. The object of a rubric is either to insure the presence of the required amount of the active ingredient or to serve as a measure of the purity of a chemical or drug. If the purity of a substance can be determined by an assay only, an assay must be used. In the instance of the alkaloidal salts an assay of the proportion of alkaloid will serve no useful purpose. It may even be misleading. There are a number of instances in the U. S. P. where the presence of co-alkaloids is allowed and there are excellent reasons for permitting such conditions. In these cases an assay will usually include the total alkaloidal contents, and consequently must prove unsatisfactory. An excessive percentage of such co-alkaloids, however, is now precluded by special tests designed to cover any such possibilities. That an accurate assay for the determination of the proportion of alkaloid in alkaloidal salts is not easily accomplished is well known, and since such assays are only of tolerable accuracy they cannot become of real value as an index of purity. Why, therefore, should the Pharmacopoeia be burdened with them? The purity tests now used are sufficient to insure satisfactorily pure products. Is there any need for determining the percentage of strychnine in the nitrate or sulphate? There is but one step from the sublime to the ridiculous—a useful assay is sublime and a useless one is ridiculous. It can very well be stated that there is a superfluity of assays in the present U. S. P. The assay of resorcinol is of no value, and the rubric and assay for the percentage of mercury in metallic mercury is more than worthless as an indication of its purity. Practically any commercial mercury will test $99^1/_2$ percent or more. The satisfactory appearance of mercury in itself is a decidedly better index of its purity than the requirement of $99^1/_2$ percent. The assays of bichloride of mercury, sulphur and perhaps of many other chemicals could be deleted without impairing the quality of these products or of the standard of the U. S. P.

There is another feature in the Pharmacopoeia which may be considered. It is well known that there is quite a divergence of opinions among physicians as to the scope of the U. S. P. Without any inclination of discussing this point it may only be said that no sooner is a product dropped from the U. S. P. than the demand for it becomes unusually heavy. On the other hand there are certain materials which ought not find a place in the U. S. P. As an example Indigo Carmine or officially "Sodium Indigo Disulphonate" may be mentioned. The only use of this substance in the Pharmacopoeia is for coloring bichloride tablets. This alone is certainly an insufficient reason for incorporating indigo carmine in the body of the U. S. P. It is a tradition that whatever is used for pharmacopoeial preparations must be standardized, but it is necessary now to substitute practicability for tradition.

It has been endeavored to outline the general considerations that governed the revision of the organic chemicals. The pharmacopoeia has now been before the public for three years, and by this time there has been opportunity to become conversant with its merits and its defects. That there are some errors or inaccuracies in the 9th revision of the U. S. P. goes without saying. It is almost bound to be so, in spite of every precaution exercised. What may have been considered good and best five years ago may be poor and obsolete now, but every effort was put forth to make the U. S. P. a work to meet the demands of the time.



H. W. WILEY, *President*
U. S. P. Convention
1910-1920



CHARLES H. LAWALL, *Chairman*
Revision Committee
U. S. Pharmacopoeia

## SUGGESTIONS FOR PHARMACOPOEIAL REVISION.

Several months ago the Chairman of the Revision Committee sent out a general request for recommendations for changes in the Pharmacopoeia to be considered during the next revision. The response has been generous and the comments are submitted herewith in abstract. Attention has been called to a few communications already published in pharmaceutical journals, but as these are available, they have not been duplicated. Several circulars, suggesting changes in the U. S. P., have been previously submitted to the Committee of Revision and will also be made available for the new Committee. The Chairman hopes that if any additional errors are discovered or other alterations are thought desirable they will be yet submitted for consideration. CHARLES H. LAWALL, *Chairman.*

## U. S. P. REVISION METHODS.

*Dr. Torald Sollmann:* In general, I believe that it would be desirable, if possible, (*a*) to restrict the formal Revision Committee to the chairmen of the sub-committees, which also could be somewhat reduced; (*b*) to elect these directly for their positions at the Convention (*i. e.*, the Convention to vote directly for a chairman for sub-committee I, II, etc.); and (*c*) to let each of these appoint an auxiliary committee, subject to confirmation by the General Committee (the latter corresponding to the present Executive Committee).

*Prof. Henry Kraemer:* I hope that the members of the Committee of Revision and the Board of Trustees of the U. S. P. Convention can see their way clear to recommend a change in regard to the issuing of the U. S. Pharmacopoeia. I think it should be mandatory that the Pharmacopoeia be issued within one year after the meeting of the Convention. This can be accomplished if the present Committee prepares a revision in the form of a supplement, to be presented to the U. S. P. Convention in 1920. By following the general principle on publicity adopted by the Convention in 1910, all of the proposed changes could be made public for comment and criticism. These changes in descriptions and standards to be printed in a manner similar to that followed in the issuance of the U. S. P. IX and published not later than January 1, 1920.

The plan which I have in mind would enable us to work ahead. It would also enable all the interests represented at the Convention to discuss a work which was concrete and embodied definite principles and proposed standards. It seems to me that in issuing the "Digest of Comments" on the Pharmacopoeia, Dr. Rice must have had in mind the perfection of an organization so as to expedite the work of revision. Furthermore, in the excellent "Digest" of Motter and Wilbert, we have all of the basic materials required to expedite such a supplementary publication of the U. S. P. IX.

*Prof. Edward Kremers:* The revision of the entire volume as practiced in the past (even though 90 per cent. of the items are not in need of revision) to be replaced by card revision of the item that demands revision at once. If the Committee cares to consider the plan, I shall be pleased to give reasons for the change if they are not too apparent already to require enumeration, also to submit samples of cards such as the Wisconsin Pharmaceutical Experiment Station is now publishing. The present method is unscientific and costly.

*Dr. L. F. Kebler:* It is recommended that the interval between the date of issue of the Pharmacopoeia and the time of its becoming effective should be at least one year. It is clearly evident that a shorter interval of time is inadequate for the trade and analysts and others to adjust matters affected by the new publication. It would also relieve considerable responsibility from those who are required to enforce the laws affecting these commodities.

The reasons for this recommendation are very obvious. It requires considerable time for the trade to adjust itself to a new standard, and also requires time to dispose of the material on the shelf of druggists. It would hardly seem the proper thing to say that a drug made according to a standard of one Pharmacopoeia would immediately become worthless when another edition becomes effective.

It is recommended that instead of requiring volunteers to do the major part of the work, such work be done by paid workers. It does not seem quite fair to ask busy men to do the work gratis required to establish various standards, etc., to enable the Pharmacopoeial Committee to accumulate funds. It is not a business proposition.

The reason for the above proposal is very obvious. In addition to what has been said, experience shows that the busy workers do not always have the time to make the determinations

asked for, with the result that in many instances the work to be done is turned over to some one else. The results in some instances may be better than if based on the work of the best experience, but the probabilities are against such an outcome.

*George E. Ewe:* There should be a method of keeping the U. S. P. within easily handled size. The less potent, less important, and less used substances can be continued in the following revision, merely by reference to the previous revision, and adding any new standards or deleting or modifying any old ones. This is the practice adopted by the Secretary of the U. S. Treasury in announcing additions to or modifications of existing Treasury decisions.

## HISTORICAL INTRODUCTION.

*S. L. Hilton:* Make the Historical Introduction as brief as possible, the saving of space thereby making the book smaller.

## PREFACE.

**Abbreviations.**—*Dr. N. S. Davis:* The abbreviations in the Pharmacopoeia are bad. An abbreviation should be easy to write and as short as possible. Tr. for tincture is all right. Why not Ex. for extract instead of ext. which is much harder to write? Also Fl. for fluidextract. When this last word was adopted by the former Revision Committee, it was assured that it was not two words but a new word. Fldext. is not at all easy to write. When it comes to drug names a short abbreviation seems to have been lost sight of. Might not for inorganic elements the chemical symbol be adopted? Both physicians and pharmacists know these. I think all these abbreviations should be thoroughly revised.

**Mil.**—*Dr. H. W. Wiley:* I believe that a mistake has been made in introducing the word "mil" for cubic centimeter. There is already an established measure of money known as the "mil." This name also means a thousandth of a dollar. Any expression of quantity, therefore, that denotes a thousandth may generically be known as a "mil." As long as the action has been made specific by an Act of Congress to denote the thousandth of a dollar, I do not think we should use it to denote a thousandth of a liter any more than we would to denote a thousandth of a gram. I am not prepared to suggest just now a shorter term than cubic centimeter, which I will admit is a cumbersome proposition. Just now it seems to me that "cubem" might do. It would be, however, more in harmony with established usage to write "c. c."

*Prof. Harold B. Meyers:* Substitution of term cubic centimeter for term milliliter, The basic reason advanced for the change made in terminology in the U. S. P. IX is debatable and not justifiable, considering the handicap it is placing on the introduction of the metric system among the members of the medical profession.

*Bureau of Standards:* It is recommended that either the complete word "milliliter" or the correct abbreviation "ml" be used.

**Definitions.**—*Dr. L. F. Kebler:* It is recommended that the definition for products be carefully formulated so that they will include exactly what is desired and nothing more. Such definitions become part of the test prescribed by the various food and drug laws. In the analysis of asafoetida, for example, if it is desired to exclude products other than those derived from the usual sources of asafoetida, some test should be introduced for detecting adulteration. If, on the other hand, the definition prescribes that the product should be derived from a given source, such definition would automatically exclude material not derived from the sources prescribed. It happens from time to time that on the basis of the definition a product may be declared adulterated. So far as practicable the tests prescribed for the product aside from the definition should cover adulteration and misbranding quite fully.

**Alcoholic Percentage.**—*George E. Ewe:* The Revision Committee of the U. S. P. IX found it impracticable to follow the recommendation of the Convention that a range of volume content of absolute alcohol be stated in the Pharmacopoeia for each preparation containing alcohol. The H. K. Mulford Company offers its figures on all of the U. S. P. preparations which it has manufactured in accordance with the formulas of the U. S. P. IX to assist the Revision Committee in stating a range of volume content of absolute alcohol of each of the alcoholic preparations of the present U. S. P. which are carried over to the U. S. P. X.

*Dr. L. F. Kebler:* It is recommended that every effort possible be made to reduce the percentage of alcohol in medicinal products to the amounts absolutely necessary for extracting the

medicinal principles, for getting the medicaments in solution or preserving the preparations. There have been some of the alcoholic preparations deleted from the present Pharmacopoeia, and in some the percentage of alcohol has been reduced. There is no question whatever but that there are still a goodly number in the Pharmacopoeia containing alcohol in excess of what is absolutely necessary. It is a well recognized fact that alcohol in and of itself possesses very little medicinal value. The only reasons for its use are those indicated above. Public sentiment is against products that lend themselves well for beverages.

*Prof. L. E. Sayre:* The official alcoholic and hydro-alcoholic preparations should all be carefully reconsidered, in view of the prohibitory law, so that the Committee can with authority state in a prefatory manner in the U. S. P. that medicinal preparations containing alcohol contain only that amount of alcohol which is absolutely necessary for extracting the medicinal principles and for the preservation of the preparation.

## BOTANY.

**Botanical Nomenclature.**—*Prof. Oliver A. Farwell:* Rules as laid down by the Vienna Congress should be adopted except where such rules prevent the adoption of the oldest names, beginning with the Species Plantarum, 1753, and the Genera, 1754. Article 20 on "Nomina conservanda" should be disregarded. Article 22 should be disregarded also. All "Family names" should end in "aceae" and affixed to the oldest "root" applied to the "family group." Recommendation X—decapitalization of geographical names should be disregarded. Article 54–2 and Article 55–2 should be disregarded. 54–2 refers to the rejection of so-called uninomial generic names and 55–2 refers to the rejection of the specific name when identical with the generic.

A stable nomenclature is a great desideratum. The rules above mentioned are exceptions, and exceptions (increased by each succeeding Congress) can never bring stability. Stability can only be obtained by rigid adherence to set rules designed to bring about that end.

**Capitalization.**—*Prof. Oliver A. Farwell:* Citrus medica Lin. and Smilax medica Cham. and Sch. as usually written are utterly wrong. Should be C. Medica, Lin. and C. medica, C. and S. In the former the specific name is geographical from ancient Media and in the latter it refers to medical properties.

*Miss Margaret Ritchie:* To "star" or mark in some manner the diagnostic characteristics of powdered drugs as an aid in their microscopic examination. The U. S. P. IX gives under each drug a short chapter on its Histology (*i. e.*, the appearance of the powdered drug under the compound microscope). While many pharmacists have no technical working knowledge of pharmacognosy, yet, if the official standard should emphasize the features which tend to identify the drug from all others, the average pharmacist with the aid of a textbook and a compound microscope would be in a position to fruitfully examine the powdered drugs which he buys, sells and dispenses.

An example of "starring" the diagnostic characteristics (*i. e.*, emphasizing the features of identity) would be in the case of Pink Root as follows:

*—Parenchyma, with starch.

*—Dark masses of epidermal tissue.

*—Total absence of "cystoliths," "stone cells," and "long, white-walled bast fibers."

With a note that its most common adulterant, "Ruellia," contains white-walled bast fibers, stone cells, cystoliths, etc.

**Crude Plants.**—*George E. Ewe:* Market supplies require extreme care in selection because of the frequent presence of excessive and extraneous matter, such as inert stems, dirt, insects, whole roots where only the part is desired, wood where only bark is desired, leaves collected in the "dead" instead of "live" condition, "flinty" and "mushy" instead of "flexible" bulbs, foreign plants, fruits where only leaves are desired, moldy drugs, etc. It is suggested that a formal letter be addressed by the U. S. P. Revision Committee to the crude drug collecting, jobbing and grinding companies asking for coöperation in correcting this bad condition, or making the standards more practical. See report of Committee on Drug Market of Pennsylvania Pharmaceutical Association Annual Meeting 1919. It is my opinion that crude drug jobbers and collectors are not doing their share in the establishment of standards for crude plant drugs. In other words, they do not exercise a sufficient degree of scientific control.

*Dr. L. F. Kebler:* Limit test for ash, stems, wormy and infected material should be provided. It is recommended that the question of ash limits, etc., be carefully studied before limits covering these features be introduced in the Pharmacopoeia. It is a well recognized fact that the ash contained in a given plant product would vary materially, depending upon the nature of the soils on which it is grown. Unless the ash limits are carefully studied and the percentage of stems carefully specified, bearing in mind of course that certain stems contain a goodly proportion of active constituents, much injustice may be done the manufacturer or dealer or may enhance, unduly, the price of drugs.

*Miss Margaret Ritchie:* To establish, if possible, fixed botanical origin for official drugs. U. S. P. IX gives Saigon Cinnamon as being derived from an "unknown species of cinnamomum," "Rhubarb, from Rheum officinale Baillon, Rheum palmatum Linne, and the var. tanguticum Maximowicz and probably other species of Rheum grown in China and Thibet;" then Cinchona Ledgeriana Moens, Cinchona Calisaya Weddel, and hybrids of these "with other species of Cinchona," and Agar from Gracilaria (Sphaerococcus) lichenoides Greville and "other marine algae growing along the east coast of China, particularly several species of Gelidium or Gloiopeltis."

When a drug is of sufficient importance to justify its inclusion in the Pharmacopoeia and its botanical origin is in doubt, the small expense of sending a capable botanist to the scene of its habitat in an effort to rightly classify it would be but a trifle in comparison to bringing the U. S. P. that much nearer perfection.

**Powdered Vegetable Drugs.**—*Prof. Albert Schneider:* It is recommended that the microscopic description of the U. S. P. IX be revised by a Committee of specialists. I believe a committee of three would be better than a larger committee. This is not to be construed as an adverse criticism of the work of the committee headed by Dr. Kraemer. The present descriptions can be reduced by more than thirty per cent. which would be a saving of both paper and ink, to say nothing of the resulting gain in clearness. All unnecessary verbiage should be omitted.

**Botanical Terminology.**—*Prof. Albert Schneider:* I can see no reason why the naming of plants should not be standard and up to date.

**Pharmacognostical Descriptions.**—*Prof. Albert Schneider:* The description of some crude drugs should be made to conform to the conditions prevailing in the United States, as for example, Belladonna.

SCOPE.

*Dr. William Fankhauser:* 1. Add descriptions of the pharmaceutical preparations, especially of such classes as collodions, fluidextracts and oleoresins, which pharmacists nowadays do not make themselves. How can they tell that the purchased products meet the U. S. P. requirements, and, in turn, the physician feel satisfied that he is obtaining standard preparations of correct composition, purity, and strength?

2. Add incompatibilities, of interest alike to pharmacist and physician. From the large mass of matter that has been published in the pharmaceutical press your Sub-committee could readily pick out those instances that have occurred or are apt to occur in prescriptions and where there is no doubt as to the incompatibility, physical or chemical—physiological incompatibility or antagonism I consider beyond the scope of a pharmacopoeia.

3. Add antidotes or andidotal measures, a matter of importance to druggists, to whom the public usually turns first for help in cases of poisoning, as well as to physicians who have little occasion to treat such cases.

4. Add therapeutic indications or action. A few words would answer; and I would suggest following the opinion of the American Medical Association as published in the "Epitome of the Pharmacopoeia of the U. S. and National Formulary."

5. Add a few typical formulas for making tablets, a common form of medication at the present day. This would give those physicians who prefer to write complete prescriptions for tablets just as they do for mixtures a chance of obtaining freshly made tablets of just the formula they want instead of ready-made combinations of fixed dosages of the several ingredients.

6. Amplify the alcohol content table on page 593 of the Ninth Revision so as to include all official preparations; or better still, add under each article in the body of the book a mention of its content in absolute alcohol, ether, and chloroform, besides the content of acetanilid, cannabis, opium, etc., per ounce av. or fluidounce of the preparation.

Adoption of the above suggestions would, in my opinion, considerably enhance the value of our Pharmacopoeia and render it popular also among physicians where it is now wholly disregarded, yet where it should be a favorite work of reference.

*Benjamin A. Levinson:* It is recommended that an appendix containing a list of poisons, symptoms of poisoning and their antidotes be included in the U. S. P. X. Many pharmacies have no reference books other than the U. S. P. and National Formulary and such a list would be invaluable.

*Edward A. Wickham:* To include a chapter in the next revision similar to the chapter on Suppositories in the U. S. P. IX on the subject of Ampoules, giving detailed instructions for filling and sealing the ampoule and rendering the solution sterile. The ampoule is fast becoming the preferred means of conveying the important medicaments intended for hypodermic use. By use of the ampoule the physician can obtain the medicinal agent in a sterile solution of the proper dosage to suit the particular and individual case. It is most practical, for solutions can be prepared and the ampoule filled, sealed, and sterilized in the pharmacy just as any other prescription or preparation.

**Plans for Deciding Upon Additions to the U. S. P.**—*Dr. L. F. Kebler:* It is recommended that the basis of including articles in the Pharmacopoeia be the drugs prescribed by the medical profession generally, excluding, of course, the proprietary and secret preparations. A careful canvas should be made among the medical profession and prescriptions on file at drug stores to determine what drugs are generally used by the medical profession in the treatment of human ailments. The drugs in the Pharmacopoeia are intended primarily for treating ailments. Such ailments are generally treated by physicians and therefore the demands of the physician are a fair criterion as to drugs to be included in the Pharmacopoeia. It is true the laity may purchase drugs recognized in the Pharmacopoeia, but usually on advice of a physician or because some lay person has suggested their use.

*George E. Ewe:* In the Case of Chemicals—Material for Decision. Lists of purchases of chemicals by the larger and more representative drug trade jobbers and pharmaceutical manufacturers should be obtained from the jobbers and manufacturers. (Note: The output of chemical manufacturers should not be included, unless the manufacturer supplies only medicinal chemicals or unless the manufacturer supplies a list containing only his output of medicinal chemicals.) The lists should include all U. S. P. and all important and widely demanded chemicals, and must be kept strictly confidential. Purchases of jobbers and pharmaceutical manufacturers are suggested, because these records are available, whereas output could not be obtained because of the diversions of a lot of chemicals to innumerable uses. A period of not less than two years should be considered as a basis of collection of data, as this is necessary to obtain an average.

Basis of Decision. The items on the individual list are placed in classes based upon the dosages of the U. S. P. chemicals in the list. Where the output or purchase of non-official chemicals is greater than the output of U. S. P. chemicals of the same general dosage, the non-official chemicals are placed in a class to be considered for admission to the U. S. P. Then the results of classification of all of the individual lists are harmonized and the chemicals thus selected should be seriously considered for admission to the U. S. P. The H. K. Mulford Company will offer data for this purpose upon request.

In the Case of Crude Drugs. Material for Decision. Lists of purchases of crude drugs by the larger drug trade jobbers and pharmaceutical manufacturers. (Note: The output of a collecting house should not be considered unless the output is solely for medicinal purposes or the list specifies only the part of the output which was diverted to medicinal purposes.) The lists should include all U. S. P. and all important and widely demanded crude drugs and must be considered strictly confidential. Purchases of jobbers and manufacturers are suggested for the same reasons as mentioned under chemicals. A period of not less than two years should be considered as a basis for collection of data, because some supplies of crude drugs are bought ahead of the time required for use.

Basis of Decision. As mentioned under chemicals, the H. K. Mulford Company will offer data for this purpose upon request.

In the Case of Manufactured Products. In my opinion, only those manufactured products with a single potent ingredient should be admitted. This limits admission to fluid, solid,

and powdered extracts, liquors, elixirs, syrups, ointments, powders, pill masses, etc., which represent only one drug. All formulas should be transferred to the National Formulary.

Material for Decision. Lists of purchases by jobbers and output of manufacturers.

(Note: The lists should include all U. S. P. and all important and widely demanded products, and must be considered strictly confidential).

Purchases of jobbers and output manufactures are suggested, because these records are readily available. A period of not less than two years is desirable, because the number of lots of any one preparation made up in one year is too small for average purposes.

Basis of Decision. Same as under "Chemicals." The H. K. Mulford Company will offer data upon request.

**Source of Standards for New Additions to U. S. P.**—*George E. Ewe:* Monographs submitted by the manufacturer or collector modified or approved by the user, as represented by pharmaceutical, chemical, physiologic, and botanical work, reported in various publications, particularly along lines of examination of market supplies. The scientific laboratories of the H. K. Mulford Company will be pleased to offer assistance to the Revision Committee in this respect, upon request.

## ADDITIONS.

*The E. Clarke Company: Virgin Peanut Oil.* We suggest that Virgin Peanut Oil be recommended for the same purposes as Olive Oil. Virgin Peanut Oil is the pure oil of selected White Spanish Peanuts. After the peanuts are shelled, the red skins are removed and the oil pressed by a cold process from the kernels. No chemical treatment is required and the oil is ready for medicinal use or for food purposes after it is filtered either through cloth or paper. According to the U. S. Government Bulletin issued by the Bureau of Chemistry, Department of Agriculture, Virgin Peanut Oil is physiologically practically identical with Olive Oil, but it is about a half per cent. more digestible and it is much more palatable. Virgin Peanut Oil has not the oiliness of Olive Oil or other oils heretofore used to take the place of olive oil and will be more readily taken than any other oil because of its palatability.

*W. H. Stone and George E. Ewe: Fluidextract of Belladonna Leaves* should be included in the U. S. P. with assay method and standard. It has a tremendous sale. Satisfactory menstruum is dilute alcohol. Assay method like Fluidextract Belladonna Root, U. S. P. Standard—0.3 Gm. total alkaloids per 100 mils.

*George E. Ewe: Emetiné Bismuth Iodide* should be included in the U. S. P. X as it is widely used by mouth in the treatment of amebic dysentery. It is suggested that a monograph be adopted based upon the description in New and Non-official Remedies.

Crude *Ammonium Sulphoichthyolate* should also be included in the U. S. P. because of its vast use. It is likely that a standard for organically combined sulphur is most important, though physical characteristics should also be described.

Following are details of examination of some Crude Ammonium Sulphoichthyolate samples:

Sample No. 1. 10.2 per cent. total sulphur and 9.96 per cent. organically combined sulphur. Physical characteristics: Similar to original "Ichthyol."

Sample No. 2 assays 10.6 per cent. $NH_3$, 9.2 per cent. combined sulphur, ash 0.132 per cent., water 48.1 per cent. Physical characteristics: Similar to original "Ichthyol."

Sample No. 3. 9.043 per cent. total sulphur, 0.336 per cent. Ammon. Sulphate, 0.081 per cent. sulphur as Ammon-sulphate and 8.962 per cent. combined sulphur. Physical characteristics: Similar to original "Ichthyol."

Sample No. 4. Moisture 52.8 per cent.; total $NH_3$, 5.8 per cent.; total Sulphur, 13.5 per cent.; organic "sulphidic" sulphur, 2.56 per cent.; sulphur in Ammon. Sulphate, 3.976 per cent.; Ammonia in Ammon. Sulphate, 2.103 per cent.; Ammonia combined with organic sulphonic acids, 3.69 per cent.; Sulphur in organic sulphonic acids, 9.54 per cent.; Ammonium Sulphate, 16.43 per cent.; Sulphur present as "sulphonic" sulphur, 6.95 per cent. Answers all other New and Non-official Remedies requirements.

Sample No. 5. Total ammonia, 3.2 per cent.; water, 49.44 per cent.; total sulphur, 9.0 per cent.; ammonium sulphate, 7.07 per cent.; "sulphonic" sulphur, 4.3 per cent.; organic "sulphidic" sulphur, 3.0 per cent.; ammonia combined with organic sulphonic acids, 2.3 per cent. Answers all other New and Non-official Remedies requirements.

Sample No. 6. Water, 50 per cent.; total $NH_3$, 2.57 per cent.; total sulphur, 7.02 per cent.; ammonium sulphate, 3.48 per cent.; organic "sulphidic" sulphur, 2.18 per cent.; organic (sulphonic acids) sulphur, 6.18 per cent.; ammonia combined with organic sulphonic acids, 2.13 per cent. Answers all other New and Non-official Remedies requirements.

Sample No. 7. Total sulphur, 6.3 per cent.; total $NH_3$, 2.3 per cent.

Sample No. 8. Total sulphur, 8.3 per cent.; total $NH_3$, 4.3 per cent.

Sample No. 9. Total sulphur, 8.13 per cent.; total $NH_3$, 4.41 per cent.

| Samples, No. | 10 | 11 | 12 | 13 | 14 | 15 |
|---|---|---|---|---|---|---|
| Total sulphur | 6.32 | 8.30 | 8.13 | 8.78 | 4.78 | 7.21 |
| Total ammonia | 2.30 | 4.35 | 4.14 | 2.02 | 1.84 | 3.64 |
| Ammonium sulphate | 3.39 | 10.5 | 10.3 | .... | .... | 5.66 |
| Loss at 100° C. | 34.5 | 60.34 | 68.5 | .... | .... | .... |
| Ash | 0.179 | None | None | .... | .... | None |
| Ammonia as ammonium sulphate | 0.956 | 2.71 | 2.67 | .... | .... | 2.89 |
| Sulphur as ammonium sulphate | 0.830 | 2.54 | 2.50 | .... | .... | 2.71 |
| Ammonia combined with organic sulphonic acids | 1.344 | 1.64 | 1.47 | .... | .... | 0.75 |
| Sulphur in sulphonic acids in oxidized state | 2.53 | 3.08 | 2.76 | .... | .... | 1.41 |
| Sulphur in organic sulphonic acids | 5.49 | 5.76 | 5.62 | .... | .... | 4.50 |
| Organic sulphidic sulphur | 2.86 | 2.68 | 2.97 | .... | .... | 3.09 |
| Miscibility with water | O.K. | O.K. | O.K. | O.K. | O.K. | O.K. |
| All other New and Non-official Remedies requirements | O.K. | O.K. | O.K. | .... | .... | O.K. |

*Dr. John F. Anderson:* It is recommended that *Anti-Pneumococcic Serum* be admitted to the next Revision of the U. S. P. Standards have been established for this by the U. S. Treasury Department. Under Guiding Principles of last Convention biological products for which there were governmental standards must be admitted to the Pharmacopoeia.

The sane is true of *Anti-Meningitis Serum.*

*Edward A. Wickham:* To include *Acidum Acetyl-Salicylicum* in the next Revision, with a formula for its manufacture, and to employ the word "Aspirin" as the official synonym. The extensive use of this product justifies its inclusion in the official standard; if included, the public will be assured of receiving a product of a standard strength and purity. The word "Aspirin" as the official synonym would be added assurance, for it is by this name that the general public knows the product and many manufacturers thus designate it.

*George E. Ewe:* Acetyl-Salicylic Acid is used so extensively that it should have a place in the U. S. P. The requirements outlined in New and Non-official Remedies for 1919 are satisfactory as a basis for a U. S. P. monograph. These requirements can be met by the market products. Legal standards are advisable for purposes of uniformity and basis of comparison.

*Corn Products Refining Company:* We recommend *Corn Oil* to be introduced in the U. S. P. It is a natural edible oil of high quality which has been tried out with great success in many pharmaceutical preparations. Dr. Virgil Coblentz investigated this oil for us as to its value in pharmaceutical preparations and found that it worked better than cottonseed oil for ammonia emulsion, dissolved camphor much more rapidly than cottonseed oil and gave a better cold cream than cottonseed oil and worked well in plaster. Dr. Joseph P. Remington informed us some years ago that he preferred corn oil to cottonseed oil in making various pharmaceutical preparations, especially emulsions.

The chemical constants for the oil are approximately:

| | | |
|---|---|---|
| Specific gravity | | 0.9265 |
| Free Fatty Acid as Oleic Acid | | 0.05 |
| Saponification Number | | 189 to 192 |
| Iodine Number | | 118 to 125 |
| Titre Test | | 18.3° C. |
| Cold Test | Cloud | —8.3° C. to —6.7° C. |
| | Solidifying | —15.6° C. to —14.9° C. |

Corn oil is exclusively a domestic product. It is an oil of high quality and free from odor, which, in several instances, is superior for the manufacture of pharmaceutical preparations to cottonseed, which is now introduced in the Pharmacopoeia.

*Carus Chemical Company:* It is recommended that *Chloramine-T* be admitted to the Pharmacopoeia because of its germicidal properties.

*Dr. Walter S. Haines:* A preparation of *digitalis for hypodermic and intravenous use* should be included in the next Pharmacopoeia. One of the most glaring defects in the present Pharmacopoeia is the absence of any preparation of digitalis that lends itself readily to hypodermic and intravenous use. When the physician wishes to adminster digitalis hypodermically or intravenously, as he not infrequently does, he is obliged to resort to some proprietary article. Every teacher of materia medica in medical schools is constantly asked by his students what official preparation of digitalis can be conveniently used hypodermically. The answer is, "There is none; you must use some non-official article."

*Lucius L. Walton:* A new class of preparations should be introduced for which I suggest the name *Petrolata Medicata* (*Medicated Petrolatums*). Zinc oxide petrolatum containing 20 per cent. of zinc oxide with petrolatum base. This is a particular case, but there may be other combinations such as phenol, menthol, camphor, capsicum, etc.

Nearly all large pharmaceutical manufacturers are selling such a product under the name of U. S. P. Zinc Oxide Ointment. Some of them make a practice of sending it out on all orders for "Zinc Oxide Ointment" which do not specify "U. S. P." One manufacturer claims "that this is a more satisfactory ointment than the official product." The petrolatum product may have equal merit with the U. S. P. ointment in some cases to which the article is adapted and the keeping qualities are in its favor, but there should be some way for physicians to distinguish the two products and indicate the petroleum product when they prefer it. The manufacturer who has really improved upon the U. S. P. product should be rewarded with an official title in the U. S. P. which he may use as a name for his product and avoid being particeps criminis in the violation of pure drug laws by dispensing pharmacists.

*American Drug Manufacturers' Association:* The Scientific Section of the American Drug Manufacturers' Association recommends to the Committee of Revision of the Pharmacopoeia of the United States that *Iron Glycerophosphate* be introduced into the next revision with the description, tests, and assay given in the National Formulary IV with the modifications quoted in the following report submitted to the Scientific Section of this Association by the Chairman of the Sub-Committe on Glycerophosphates, Mr. Gaston DuBois, of the Monsanto Chemical Works.

(*a*) Change the iron content from "not less than 14 per cent. nor more than 16 per cent. Fe" to "not less than 13 per cent. nor more than 15 per cent. Fe."

The reason for reducing the iron content is that we have found it practically impossible to produce iron scales containing 14 per cent. iron. Iron glycerophosphate is produced in two forms—as scales and as powder. The scale was used, I think, mostly in Europe. The powder, I should say, is the American product; it is better, inasmuch as it is cheaper to produce, more convenient to use, and has the same value. However, we have to consider the scales as it is a market product. We have found it very difficult in the case of scales to bring the content of iron in this product up to 14 per cent. If we dry it up to that degree, the product becomes brittle, a powder, and you do not have scales, and therefore if the scales have to be considered it is not practical to retain the present description in the National Formulary. If the powder alone is considered, then we can bring the iron content up to 14 per cent. or over very easily. But as this description would embody both powder and scales, we suggest that the iron percentage be reduced to 13, and instead of reading "14 to 16 per cent." should read "13 to 15 per cent."

The National Formulary is somewhat vague on the percentage of chloride and we have set the highest limits to 0.3 per cent., because we found that the market products contain only 0.2 per cent. of chloride and therefore we suggest a limit of 0.3 per cent. chloride as reasonable.

(*b*) In place of the qualitative test for chloride insert "An assay for chlorides by the U. S. P. method No. 5 (p. 588) shall show not more than 0.3 per cent. chloride as $FeCl_3$."

(*c*) Add to tests the following for ferrous salts: "A freshly prepared solution of an alkali ferro-cyanide (1 : 10) shall show no blue color (ferrous salts)."

We have in our report a list of analyses of iron glycerophosphate in powder form and in scale form and we find the product in powder form to test (about 10 products) from 14.2 to 16.3 per cent. iron, and from 0.03 to 0.14 per cent. iron chloride, etc.

This table shows that in the case of Iron Glycerophosphate scales, the National Formulary requirements are almost impossible to meet and would cause rejection of goods, which are otherwise perfect, on account of one or two-tenths per cent. iron.

The therapeutic value of Iron Glycerophosphate should, we believe, be equal if not superior to the therapeutic value of other glycerophosphoric acid salts, and it is for this reason that we suggest the iron salt be included in the next U. S. P. The above changes and conditions are prompted by facts.

Laboratory results on factory products furnish basis for contention (*a*) That content Fe be changed to read "not less than 13 per cent. nor more than 15 per cent."

| Powder. | %. | Per cent. $FeCl_3$. % | Scales. | %. | Per cent. $FeCl_3$. % |
|---|---|---|---|---|---|
| Lot 410 | 16.3 | 0.14 | Lot 127 | 12.8 | 0.18 |
| Lot 409 | 16.8 | 0.07 | Lot 132 | 12.8 | 0.18 |
| Lot 261 | 15.6 | 0.08 | Lot 112 | 14.8 | 0.44 |
| Lot 262 | 14.3 | 0.04 | Lot 168 | 12.5 | 0.22 |
| Lot 265 | 15.5 | 0.03 | Lot 182 | 13.7 | 0.34 |
| Lot 271 | 15.5 | 0.05 | Lot 260 | 13.3 | 0.22 |
| Lot 272 | 14.4 | 0.05 | Lot 264 | 13.4 | 0.25 |
| Lot 276 | 14.7 | 0.09 | Lot 342 | 13.9 | 0.21 |
| Lot 280 | 15.2 | 0.08 | Lot 359 | 13.8 | 0.12 |
| Lot 285 | 14.2 | 0.07 | | | |
| Lot 286 | 14.6 | 0.05 | | | |

(*b*) Above records indicate that 0.30 per cent. represents a fair limit for chlorides in both powder and scale form.

(*c*) Ferrous salts are very seldom found in the manufacture of Iron Glycerophosphate. Their presence forms a basis for rejection on account of being insoluble.

*American Drug Manufacturers' Association:* In the United States Pharmacopoeia, 9th Revision, Belladonna Leaves and Belladonna Root are made official. In the requirements for belladonna leaves the Pharmacopoeia allows the dry leaves and tops without the presence or admixture of more than 10 per cent. of the stems and other foreign matter and not less than 0.3 per cent. total alkaloids of belladonna leaves.

It is a well known fact, since the European War, supplies of belladonna from foreign sources have been cut off and the consumer of belladonna has been compelled to rely to a considerable extent on the American grown product; by the requirements of the Pharmacopoeia the growers of belladonna are confronted with the problem that a large portion of the plant is not official and in some instances this amounts to as high as 60 per cent. of the belladonna plant by the rejection of the stems of cultivated belladonna. It has been found that they contain an amount of alkaloid equal to and sometimes surpassing the requirements of the Pharmacopoeia, and with many cultivators, it has been found that a mixture of the dry stems and leaves exceeded in alkaloidal contents the Pharmacopoeial requirements. This latter is of considerable importance to the grower as well as to the consumer of the drug. To grow belladonna or other drugs requires the investment of considerable capital, the expenditure of a considerable amount of labor, and the rejection by the Pharmacopoeia of a considerable percentage of the crop containing alkaloid considerably above the requirements of the Pharmacopoeia materially increases the cost of the product. Considerable effort is now being made by the National Department of Agriculture, by the State Agricultural departments, and by private individuals to so conduct the cultivation of this and other drugs that this country will be independent so far as certain of its drug supplies are concerned.

The American Drug Manufacturers' Association respectfully suggests that Belladonna Herb, by which term it is intended to include the leaves and dry stems, should be made official in the Pharmacopoeia and allowed to be used for galenical preparations and in the manufacture of medicinal products. The suggestion is, that in addition to belladonna leaves and belladonna root, the following be inserted in the Pharmacopoeia:

*Belladonna Herb:* The dried stems, leaves, and flowering and fruiting tops of *Atropa Belladonna* Linné (Fam. *Solanaceae*), yielding not less than 0.35 per cent. of total mydriatic alka-

loids when assayed by the official process, and containing not more than 18 per cent. of total ash.

Stems hollow, cylindrical, or more or less flattened, green or brownish green, longitudinally furrowed, wrinkled, and finely hairy. Leaves much crumpled and having the characteristics given under Belladonnæ Folia.

The powder is either dull green or brownish green, somewhat hygroscopic, and reveals the same characteristics when examined with the compound microscope as given under Belladonnæ Folia.

Belladonna Herb may be used in the place of Belladonna Folia in the preparation of Tinctura Belladonnæ, Extractum Belladonnæ, and Emplastrum Belladonnæ.

*American Drug Manufacturers' Association:* This Association also recommends the inclusion of Hyoscyamus Herb in the next revision of the U. S. P. and submits the following tentative standard:

*Hyoscyamus Herb:* The dried stems, leaves, and flowering and fruiting tops of *Hyoscyamus niger* Linné (Fam. *Solanaceae*), yielding not less than 0.065 per cent. of the alkaloids of Hyoscyamus.

Stems, hollow, cylindrical, flattened, longitudinally furrowed and wrinkled, grayish green and glandular pubescent. Leaves more or less broken and having the characteristics given under Hyoscyamus.

The powder is light grayish green and possesses the same characteristics when examined with the compound microscope as given under Hyoscyamus, with the exception that the woody fragments are more numerous.

Hyoscyamus Herb may be used in place of Hyoscyamus in the preparation of Extractum Hyoscyami, Fluidextractum Hyoscyami, and Tinctura Hyoscyami.

*American Drug Manufacturers' Association:* Acting on the advice of its Committee on Standards and Deterioration who have duly investigated the matter scientifically and have collated the experience of the firms in the membership, the American Drug Manufacturers' Association respectfully recommend to the Committee of Revision of the U. S. P. that:

A standard for *Belladonna and Capsicum Plaster* be established, *viz.*, the plaster to contain 0.125 per cent. alkaloids of belladonna.

Heretofore there has been no authoritative standard for a Belladonna and Capsicum Plaster, manufacturers having, in part at least, followed the practice of making the Belladonna and Capsicum Plaster half the strength of the regular Belladonna Plaster, and, in order to make such a practice uniform, this Association makes the above recommendation as to alkaloidal strength, establishing the standard of this plaster as follows:

Belladonna and Capsicum Plaster to contain 0.125 per cent. alkaloids of Belladonna, and 5 per cent. of powdered Capsicum.

*American Drug Manufacturers' Association:* The following recommendation is made: That the Committee of Revision of the U. S. P. permit the use of *Mexican Scammony* and its resin in the Pharmacopoeia in place of Levant Scammony; and that in U. S. P. formula, calling for Scammony Resin, they permit the use of Mexican Scammony as well. This recommendation is based on necessity, as there is practically none of the so-called True Scammony available in this country. This Association maintains that so far at least as pharmaceutical purposes are concerned, there is no detectable difference between the Mexican and the Oriental Scammony. The Committee of Revision is reminded also that Mexican Scammony is recognized in the British Pharmacopoeia and therefore has the endorsement of a very important and careful body of representative men, whose judgment should be given due weight.

## DELETIONS.

*George E. Ewe:* The lists of purchases and outputs obtained by me under the subject, "Plan for Deciding Upon Additions to the U. S. P.," should be carefully filed away and compared with new lists, obtained for the succeeding revision, in order to keep down the size of the U. S. P. Deletions can be freely made by continuing the old standards in the new revision by merely referring to the previous revision and adding any new standards or deleting or modifying any old ones.

*W. H. Stone:* As there is little or no demand for *Fluidextractum Granati*, it is recommended for deletion. The same is true of *Fluidextractum Aromaticum*.

*Thomas S. Blair: Arnica, Guaiacum, Mezereum, Veratrina, Taraxacum,* and *Viburnum Prunifolium* are recommended for deletion. Arnica is practically useless, no defined activity making it useful internally and it is apt to be harmful externally. Guaiac should be turned over to the laboratory and abandoned as a remedy. Mezereum is useless and employed only in the shot-gun sarsaparilla preparations. Veratrine is a mixture, uncertain and dangerous. Taraxacum is practically worthless. Viburnum Prunifolium has no defined activity.

*Edward A. Wickham:* It is recommended that either *Mistura Glycyrrhizae Composita* or *Pulvis Glycyrrhizae Compositus* be deleted. As these two preparations are so vastly different in composition and are used for such totally different purposes, it would seem that either one or the other should be dropped or else have its name changed.

## MISCELLANEOUS RECOMMENDATIONS.

*S. L. Hilton:* Publicity of changes before publication of the book. This is not a new feature, as it was carried out in the last Revision. I believe it resulted in much good and should again be followd in the U. S. P. X.

*Prof. Robert P. Fischelis:* It is suggested that a sub-committee on publicity be appointed to have charge of publicity given to the work of revision, to both the professional and lay press, under the supervision of the Chairman, this committee to function throughout the work of revision and issue bulletins and collect clippings, so as to have a complete record of the publicity given to the work of revision. A committee of five is suggested, with a chairman who is familiar with publicity work and in active touch with the avenues that lead to publication of articles in the lay press; monthly bulletins to be issued to pharmaceutical and medical journals; monthly bulletins to be issued to newspapers, preferably Sunday editions, and to certain magazines; the monthly bulletins to lay press to be carefully worded and calculated to educate the public and cultivate public opinion in favor of the present method of revision in preference to a Government-controlled revision. Very few laymen know that there is such a thing as a Pharmacopoeia, and therefore do not realize just how pharmacists and physicians protect lives each day by insisting on drugs and preparations which come up to certain legal standards. Chemistry is fast becoming as favorably associated in the minds of laymen as medicine. This is due chiefly to the propaganda carried on by the American Medical Association and the American Chemical Society. There seems to be no good reason why pharmacy and the work of pharmacists should not also be in the public eye and the suggestions above would appear to me to be one of the best means to achieve such an end.

*The National Association of Drug Clerks:* U. S. P. methods are too complex. The work should be compiled upon more practical principles for the retail drug trade. Principles and methods should be as practical as possible, yet the standards should not be lowered, so as to encourage the retail drug trade to develop ethically the professional side of pharmacy by manufacturing, to a greater degree, within his own store all U. S. P. products.

In taking up constructive and educational work in the field during the past three years with the retailers and in covering fourteen states, it has been found that many retailers express themselves against the complexity of methods employed in the U. S. P. in the past for the manufacture of many of the simpler preparations. Some go so far as to state that their opinion was that the Revision Committee did not give retail drugdom the proper consideration hereon in the compilation.

*Prof. A. H. Clark:* It is recommended that the Committee of Revision publish as a separate volume all the technical scientific work such as assay methods, analytical operations, etc. (See THIS JOURNAL, January, 1919, p. 13.)

The scientific work could be brought to a much higher degree of perfection in such a volume, thus making it more useful to chemists and officials everywhere. The book of formulas, doses, etc., could be made more useful to pharmacists and physicians. Each volume would be smaller, less expensive, and more useful.

*Dr. N. S. Davis:* Would it not be well to indicate all drugs which have physiological and pathologic activity by printing their names in heavier type than the others which are almost or quite useless but still used?

Also in the same way indicate the one or two best liquid and solid preparations of those drugs. This will ultimately lead to the use of fewer preparations, but the best. Only one or two

preparations for pills and liquids are needed. The drugs which have genuine activity should be selected by the physicians of the Committee. The preparations to be preferred should be selected by a small committee, mostly pharmacists, but with a medical representative too. Of course, they should be able to get the advice of any others when needed.

*George E. Ewe:* Crude drugs, fluidextracts, and tinctures unstandardized. Extractive standards are desirable for purposes of uniformity. The H. K. Mulford Company offers its extractive standards.

*Edward A. Wickham:* It is suggested that working formulas for chemical compounds be included in the next revision. While it is true that but few dispensing pharmacists are inclined to manufacture their own chemicals (such as zinc stearate, sodium bromide, etc.), yet inasmuch as the U. S. P. is a "laboratory guide" it would seem right to give the few dispensing and the many manufacturing pharmacists the benefit of suggestive formulas. During the recent war, no doubt, many pharmacists had stocks of raw materials, say salicylic acid, but allowed patients to wander in search of sodium salicylate, not caring to prepare it from the acid, fearful that their finished product would not be true. Suggestive formulas, in addition to making the U. S. P. of more value to the dispensing and manufacturing pharmacists would make it of paramount value as a textbook to students of both medicine and pharmacy.

*Dr. L. F. Kebler:* If the present Pharmacopoeia provides a good standard or a good method for determining such a standard, they should not be changed unless better ones are available. Methods and standards should not be changed for individual reasons. Unless something of a definite character can be accomplished by the introduction of a new method, the old one should be retained. Frequent changes in methods and standards result in economic losses. They require manufacturers to adjust their products to the new basis. The analysts are compelled to spend time and money to become acquainted with the new elements involved.

It happens from time to time that a worker will develop a method which in his hands gives excellent results, but when actually tried out proves unsatisfactory. No one-man method should be included in the Pharmacopoeia because such method as a rule will not be productive of the best results. Every method proposed by an individual or laboratory should be carefully tried out and if it proves satisfactory, then, and then only, should be included.

It is recommended that only such methods of analysis be included in the Pharmacopoeia as give fairly concordant results in the hands of experienced workers. No methods should be considered for possible inclusion which in the try-out vary more than 20 per cent. in the hands of skilled operators. The reasons for this are self-evident. A method which does not give concordant results in the hands of skilled workers will only lead to confusion, trouble, and discord. None of these elements should find a place in Pharmacopoeial methods.

Fineness of Powders.—*Prof. Frederick J. Wulling:* I feel some attention should be given to the determination of more suitable degrees of fineness of powders for the preparation of fluidextracts, tinctures, and extracts. There appears not to be sufficient research result along these lines. The degrees of fineness to be decided upon should be determined or indicated more largely by the nature of constituents and cells and the density of resulting preparations. It appears that heretofore the general principle followed was based merely upon the results growing out of the practical experience of pharmacists and manufacturers and not out of scientific research.

It would be of advantage if by suitable research work a single degree of fineness of powder of each vegetable drug might be determined that would be suitable for employment of that powder in the preparations of fluidextracts, tinctures, and extracts. To make clearer what I have in mind I will enclose compilation based on the U. S. P. showing that most vegetable drugs are designated to be in more than one degree of fineness. Gentian is required to be in No. 20 powder for preparation of the extract, in No. 30 powder for the preparation of the fluidextract, and in No. 40 powder for the preparation of the tincture. Methods of preparation, of course, also have much to do with the selection of a suitable degree of fineness of powder. Everything else being equal, it costs less to grind a drug into a No. 20 powder than into a finer one, but I think this economic question could safely be put aside in favor of uniformity.

Some allowance should also be made on tailings of different degrees of fineness. Some research work ought to be done along these lines. In our extensive work in milling digitalis in

connection with the preparation of the tincture for the Government and in the milling of other drugs cultivated in our own medicinal plant garden, we have come across many evidences of the value of more systematic and scientific work along these lines. If our faculty and service force is increased in the near future, as I hope it will be, this College might be willing to undertake some original work of this kind. Our Dr. Newcomb has gained a valuable experience which the College would be glad to develop for the benefit of the revision. I cannot make any promises at present, but can say in a general way that the College would be willing to be helpful to the extent its facilities and resources would warrant.

TABLE SETTING FOR THE DIFFERENCES IN DEGREE OF FINENESS OF U. S. P. VEGETABLE POWDERS.

| | Designated degree of fineness U. S. P. IX. | | | |
|---|---|---|---|---|
| | Fluidextracts. No. | Tinctures. No. | Extracts. No. | Oleoresins. |
| Aconite | 40 | 60 | 60 | |
| Belladonna Leaves | .. | 60 | 40 | |
| Bitter Orange | 20 | 40 | .. | |
| Cannabis | 30 | 40 | 20 | |
| Cascara | 40 | .. | 20 | |
| Colchicum Seed | 40 | 50 | .. | |
| Digitalis | 30 | 60 | .. | |
| Gelsemium | 40 | 60 | 40 | |
| Gentian | 30 | 40 | 20 | |
| Hydrastis | 40 | 60 | 40 | |
| Hyoscyamus | 40 | 60 | 40 | |
| Rheum | 30 | 40 | 40 | |
| Zingiber | 40 | 30 | Pulvis Aromat. 60 | No. 60 |
| Physostigma | .. | 50 | 60 | |
| Stramonium | .. | 60 | 40 | |
| Capsicum | .. | 50 | .. | 40 |
| Podophyllum | 40 | .. | .. | Resin 60 |
| Nux Vomica | 40 | 40 | 20 | |
| Scilla | 20 | 20 | .. | |

**Powdered Vegetable Drugs.**—*Prof. E. L. Newcomb:* There should be more uniformity in the degree of fineness of the same drug when used for making different preparations. The indicated degree of fineness for vegetable drugs to be based not only upon the physical problems to be met during extraction, but also upon the pharmacognostical character of the cells containing the active medicinal constituents.

A limit of residue or so-called gruffs or tailings should be specified for certain drugs.

There should be conferences between the chairman of the committee on Botany and Pharmacognosy and the chairmen of other committees having to do with preparations containing vegetable drugs.

Bale lots of official drugs should be ground to the different degrees of fineness required, under scientific supervision, and by the use of different types of mills. Standard sifting apparatus should be employed and figures on the percentage of middlings and tailings for first and second grind obtained from which reasonable limits of waste may be established. Many factors relative to the condition of the crude drug must be considered.

There are inconsistencies relating to this subject in the U. S. P. IX. Powdered drugs are less uniform in quality than they would be if limits for waste during milling were established. Drug millers are asking that such standards be included.

*Henry Paul Busch:* The Pharmacopoeia is now most important as a book of standards. On general principles, I believe that a standard once adopted, should not be entirely abandoned, though, of course, it may require modification or revision from time to time. However, many items have been dismissed from preceding revisions of the Pharmacopoeia and doubtless others will be dismissed in the future. I would therefore suggest that all old titles be included in their

proper alphabetical order in the body of the work, printed in a distinctive type (say Italic or Extended) with some brief note of their disposition. For example:

Deleted from X Revision.
No Official Standard,
or
Deleted from IX Revision.
See N. F. IV.

There are many reasons why it would be desirable to extend this idea to many titles deleted from earlier editions, though just where to draw the line I would leave to the Committee.

I would also like to suggest that there should appear in the body of the text in connection with each official title in small type (6-point or 8-point) some brief notes indicating when it was first introduced, and the time at which some material change was made in the strength or requirements for the article. I have in mind such very important changes as were made in the 8th Revision in regard to Tincture of Aconite, etc.

I would suggest further that immediately following each official title, or immediately preceding the purity rubric, there should appear a statement of the alcohol and narcotic content in the form required to be shown on the labels under the Food and Drugs Act. This would, of course, show alcohol—per cent., and the other articles in grains per ounce.

The following will illustrate the above ideas:

| | |
|---|---|
| SPIRITUS FRUMENTI | Deleted IX. |
| Whisky | No official standards. |
| ACETUM OPII | Deleted IX. |
| Vinegar of Opium | v. N. F. IV. |
| ALCOHOL ABSOLUTUM | |
| Absolute Alcohol | v. Alcohol Dehydratum in this edition. |
| TINCTURA ACONITI | o |
| Tincture of Aconite | 35 per cent. |
| Tr. Aconit. | Chemical Assay 10 per cent. VIII |
| Alcohol 66 per cent. | Biological Assay 10 per cent. IX. |
| SPIRITUS ÆTHERIS NITROSI | |
| Spirit of Nitrous Ether | |
| Sp. Aeth. Nitros. Sweet Spirit of Nitre. | |
| Alcohol 92 per cent. Ethyl Nitrite 15.25 grs. per fl.oz. | |

*Dr. J. M. Francis:* When the completed revision of the U. S. P. IX was ready for sending to the printer, I protested most vigorously against the seemingly indiscriminate use of glycerin in all sorts of liquid preparations. I protested particularly against the use of glycerin in so many of the drug preparations.

The unexpected advent of the European War proved the truth of my contention that the indiscriminate use of glycerin would prove costly to the drug trade of this country, for, as you remember, glycerin became prohibitive in price and it is an undisputed fact that the drug trade, physicians and the patients of the United States were subjected to useless expense, amounting to untold thousands of dollars, for this one reason.

Now I am as convinced as ever that the Pharmacopoeia still contains many preparations having glycerin in the formula in which it is practically useless, and therefore an uncalled for item of expense; and there are various other preparations in the Pharmacopoeia which contain a quantity of glycerin that is excessive. I, therefore, hope that this matter will be directed to the attention of the proper sub-committees and will be given most careful study in the Tenth Revision.

NOTE: Dr. Francis' opinions are concurred in by *Mr. J. P. Snyder*, of the Norwich Pharmacal Company; *Mr. Howard T. Graber*, of the Digestive Ferments Company; the *Scientific Section of the American Drug Manufacturers' Association; Dr. F. B. Kilmer*, of Johnson and Johnson, and *Dr. John Uri Lloyd*, of Lloyd Brothers.

*Dr. Fred Kilmer:* Dr. Kilmer presented at the Annual Meeting of the New Jersey Pharmaceutical Association, 1919, constructive suggestions for Pharmacopoeial Revision. (SEE *American Journal of Pharmacy* for August, 1919.)

## ACETANILIDUM.

*Dr. Thomas S. Blair:* Reduce the average dose of Acetanilid to 1 1/2 grains in place of 3 grains. Therapeutists are coming to the view that the dosage of acetanilid is entirely too high. An article in the *Journal of the American Medical Association*, some time ago, placed the proper dosage at 1 1/2 grains. While out on detail for the U. S. Public Health Service last fall, during the influenza epidemic, I was deeply impressed with the fact, for it is a fact, that the coal-tar synthetics are used vastly to excess and the doses at present in vogue are doing so much harm that this useful class of drugs is threatened with a reaction against them that need not be if they are properly used and if the American chemical industry exploits them properly, which the Germans did not do, for they were interested only in sales and they suggested excessive dosage.

## ACIDUM BENZOICUM.

*Dr. Thomas S. Blair:* Approve only certain of the processes for making synthetic benzoic acid and benzoates, and exclude products made from the urine of herbivorous animals. There is much inferior benzoic acid on the market and I have observed depression to follow the use of benzoates of uncertain synthetic type.

*Dr. A. R. L. Dohme:* A more definite test for distinguishing between the natural and the synthetic acid should be given. The chlorine test which is usually applied for distinguishing between the natural and the synthetic acid is not reliable, because the process for manufacturing the synthetic acid has been so perfected that the acid can be made free from chlorinated products.

## ACIDUM HYDRIODICUM DILUTUM.

*Dr. A. R. L. Dohme:* The test for total solids should be revised. The residue left after evaporating and incinerating 5 mils of the acid is not potassium carbonate as is usually accepted, but is potassium iodide which volatilizes when too high heat is applied. Therefore, it should be stated that the heating should be carried out only at dull redness.

## ACIDUM HYDROCYANICUM DILUTUM.

*H. V. Farr:* Under the method of assay it is recommended that the material be cooled, ice cold and the portion for test be withdrawn with a pipette instead of by pouring as recommended in the present edition. In place of the present test for hydrogen chloride a direct titration of the total mineral acid with standard alkali and methyl orange indicator is recommended, as follows:

*Mineral Acid:* Into a small Erlenmeyer flask introduce exactly 5 mils of the acid to be tested and two drops of methyl orange T. S. Not less than 1 mil nor more than 2 mils of $\frac{N}{10}$ sodium hydroxide solution should be required to change the red color to yellow.

Hydrocyanic acid is extremely volatile even from very dilute aqueous solutions so that in pouring the acid from a bottle, particularly in warm weather, considerable loss inevitably results. The acid can be safely drawn into a pipette by the use of a suction pump, and if it be previously cooled (ice cold) loss becomes negligible.

With regard to the test for mineral acid, having in mind the fact that traces of some mineral acid are necessary to the proper preservation of hydrocyanic acid, it seems desirable to establish a minimum as well as a maximum limit. The determination above suggested is very much more convenient than the present method, and, at the same time, is more accurate and reliable.

## ACIDUM SULPHURICUM AROMATICUM.

*Dr. A. R. L. Dohme:* Assay process should be changed. A process should be adopted similar to the one published by Penniman and Randall in the *Journal of Industrial and Engineering Chemistry* for October, 1919. The results obtained by the official method are too high, due to the reaction being reversible.

## ACONITUM.

*George E. Ewe:* It is suggested that the standard be reduced to 0.45 per cent. and a corresponding change be made in the physiological standard. The standard of 0.5 per cent. of ether-soluble alkaloids appears to be too high. Data for the establishment of a lower standard are herewith submitted. A lower standard would be desirable to accord with the market quality of aconite root. Furthermore, practical manufacturers of the fluidextract and tincture indicate

great difficulty in getting these preparations up to the present standards because of the present somewhat high standard of the crude drug.

| Year. | No. of assays. | Lowest assay. | Highest assay. | Average. | Standard. | Number. Above. | Number. Below. |
|---|---|---|---|---|---|---|---|
| 1911 | 15 | 0.372 | 0.965 | 0.577 | 0.5 | 7 | 8 |
| 1912 | 16 | 0.418 | 0.965 | 0.692 | 0.5 | 12 | 4 |
| 1913 | 10 | 0.272 | 0.800 | 0.433 | 0.5 | 2 | 8 |
| 1914 | 8 | 0.297 | 0.784 | 0.490 | 0.5 | 4 | 4 |
| 1915 | 5 | 0.360 | 0.626 | 0.497 | 0.5 | 2 | 3 |
| 1916 | 11 | 0.230 | 0.640 | 0.418 | 0.5 | 2 | 9 |
| 1917 | 12 | 0.360 | 1.048 | 0.622 | 0.5 | 10 | 2 |
| 1918 | 3 | 0.33 | 0.49 | 0.414 | 0.5 | 0 | 3 |
| 1919 | 5 | 0.371 | 0.693 | 0.549 | 0.5 | 4 | 1 |
| Totals | 85 | | | | | 43 | 42 |

*S. L. Hilton:* Chemical assay should be omitted unless a more accurate method be devised whereby the aconitine does not break down.

*American Drug Manufacturers' Association:* The Scientific Section of this Association suggests that the U. S. P. X include so-called Japanese Aconite Root, provided a study of the drug confirms our belief that it is as efficient as the present official variety of aconite root.

## ADEPS LANAE.

*George E. Ewe:* The "alkalies and soaps" requirement appears to be difficult to attain. An upper limit of 0.3 per cent. ash instead of the present 0.1 per cent. and the dropping of the requirement that the ash be not alkaline to moistened litmus paper would not include any harmful products.

## ADEPS LANAE HYDROSUS.

*Bertha Mueller:* It is recommended that a formula for making lanolin be made official. The following formula is submitted:

| | |
|---|---|
| Liquid Petrolatum | 10.00 |
| Distilled Water | 20.00 |
| Anhydrous Wool-fat | 70.00 |

Melt the anhydrous wool-fat at a low heat when liquefied, add the liquid petrolatum followed by water, and stir vigorously until the mixture thickens and assumes a creamy white appearance.

Inasmuch as lanolin was considered sufficiently valuable to be included in the Pharmacopoeia, and since its preparation requires neither more skill nor labor than does any one of the official ointments, it would seem that a formula for preparing it ought to be made official.

## ALCOHOL.

*S. L. Hilton:* U. S. P. IX Standard for total solids is too high. The total solids in alcohol should not be more than 0.001 Gm. in 50 mils when dried at 110° C. There is no trouble to obtain alcohol well within this requirement. I suggest a test for furfurol be added so that a means will be at hand to distinguish and differentiate alcohol made from grain from that made from cane or molasses; all molasses alcohol contains considerable furfurol, while the amount obtained when made from grain is almost if not nil. Cane or molasses alcohol is frequently sold for grain alcohol.

## AQUA DESTILLATA STERILISATA.

*Bertha Mueller:* It is recommended that the technic for closing the flask be modified in order to guard more effectively against contamination. Cut a piece of sterile gauze about 6–8 inches wide, unfold it and place one end of it over the mouth of the flask, then lay a pledget of cotton on top of it and gently push the cotton together with the gauze down into the neck of the flask, allowing sufficient cotton to extend over the rim to act as covering, then bring the free end of the gauze over the mouth of the flask and wrap tightly around the neck, fastening it with a pin. Then put the flask over to boil according to U. S. P. directions. The U. S. P. directions do not guard effectively enough against contamination. In order to reduce to a minimum all possible chance for contamination, the mouth and the neck of the flask should be carefully protected with

sterile gauze before the flask is put over to boil. Then again, if the cotton is not wrapped in sterile gauze, there is considerable danger of some cotton hairs getting into the sterile water and acting as a foreign body there.

## ASAFŒTIDA.

*L. T. Andrews:* Assay for alcohol-soluble content. Place a cup-shaped, tared, filter paper (prepared by folding it over a cork) in a continuous extraction apparatus, add a weighed quantity of asafetida and warm on a water-bath until all alcohol-soluble matter has been extracted. Then dry the filter, weigh the residue, and calculate the per cent.

*Prof. Oliver A. Farwell:* The standard of strength for the powder should be the same as for the mass. The U. S. P. gives 60 per cent. alcohol-soluble constituents for the mass or 50 per cent. for the powder. Powdering the mass does not change the constituents or all percentages thereof.

## ASPIDOSPERMA.

*George E. Ewe:* The U. S. P. prescribes no alkaloidal standard.

The U. S. P. method for cinchona is satisfactory and a standard of 1 per cent. total alkaloids is suggested based upon the assay of 5 samples during the past 7 years.

The following results of assays of Aspidosperma were abstracted from the Proceedings of the Annual Meetings of the Pennsylvania Pharmaceutical Association for the years mentioned:

| Year. | No. of samples. | Lowest. | Highest. | Average. | Number. Above Standard. | Number. Below Standard. |
|---|---|---|---|---|---|---|
| 1915 | 2 | 0.95 | 1.22 | 1.08 | 1 | 1 |
| 1916 | 1 | 1.09 | 1.09 | 1.09 | 1 | 0 |
| 1917 | 1 | 1.42 | 1.42 | 1.42 | 1 | 0 |

In addition to these we tested one sample in 1912 which assayed 0.97 per cent. total alkaloids.

*Alfred S. Burdick:* Include an assay process for Aspidosperma.

## ATROPINAE SULPHAS.

*Alfred S. Burdick:* The melting point of atropine sulphate, when free from hyoscyamine, is 194°, not 181–183° C.

## BELLADONNA FOLIA.

*George P. Koch:* I recommend using the primary and secondary stems in conjunction with the leaves of belladonna, stramonium and hyoscyamus, as has been shown in the data presented: On Stramonium in the *American Journal of Pharmacy*, January 1919; on Hyoscyamus Niger in the *American Journal of Pharmacy*, February 1919, and on Atropa Belladonna in this JOURNAL, for May 1919. The stems can be used in conjunction with the leaves and the U. S. P. requirements met. The use of stems greatly facilitates and reduces the cost of harvesting these plants, as machinery can be used in harvesting, while if the leaves alone are employed, hand labor must be used. One can get a much greater yield per acre where the stems can be utilized.

*George E. Ewe:* The whole dried plant, exclusive of the root, should be made official instead of only the dried leaves and tops. Cost of U. S. P. belladonna would be reduced since the harvesting would be simplified.

## BELLADONNÆ RADIX.

*Alfred S. Burdick:* In the assay of belladonna root and similar assays, the final chloroform extracts of the alkaloids should be filtered through a small filter paper before evaporating to dryness.

## BENZOSULPHINIDUM.

*George E. Ewe:* The U. S. P. melting interval appears to be low. A melting interval of 224–226° C. is proposed. One lot melted at 225° C. but was otherwise U. S. P. Three other lots which we have examined were strictly U. S. P. but had melting intervals averaging 226, 228 and 225° C., respectively. It would appear that a higher purity is now being supplied.

## CALCII CHLORIDUM.

*Dr. A. B. Lyons:* If "calcium chloride" is taken to mean a salt containing approximately 25 per cent. of $H_2O$ (U. S. P. IX), it is quite certain that one part will dissolve in much less than

1.2 parts by weight of water. From one experiment I conclude that a solution of the salt saturated at 25° C. contains not far from 50 per cent. of $CaCl_2$ equivalent to more than 66 per cent. of $CaCl_2 + 2\ H_2O$. According to this, one part of the hydrated salt would require only about one-half of one part of water.

## CALCII GLYCEROPHOSPHAS.

*American Drug Manufacturers' Association:* The Scientific Section of the American Drug Manufacturers' Association recommends that to the tests for Calcium Glycerophosphates there be added a titration method as follows:

Titrate about 3 Gm. of the dried salt, accurately weighed and dissolved in 250 mils of distilled water, first with half-normal NaOH V. S. and phenolphthalein T. S. as indicator, to a slight pink to determine presence of added acids, (1) then with half-normal hydrochloric acid V. S., using methyl-orange T. S. as indicator, to a slight yet distinct pink. Each mil of half-normal acid used corresponds to 0.10508 Gm. of $CaC_3H_7PO_6$. Each Gm. of dry calcium glycerophosphate corresponds to not less than 9.3 mils of half-normal hydrochloric acid C. S.

This is recommended as a rapid method of determining the purity of the product provided no organic acids have been added to the calcium glycerophosphate. While it was formerly the custom with some European manufacturers to add organic acids to their products, American manufacturers do not do so.

It is also recommended that the ash requirement of the U. S. P. for glycerophosphates—determined on the dry product—be reduced from 59.2 per cent. to 58 per cent. for the reason that manufacturers have found it impractical to manufacture a product having more than 58 to 59 per cent. ash. Since the CaO content, the titration, the solubility test, and the tests for chloride, sulphate and other impurities, give a definite indication of purity, while the ash seems to be a variable factor even in satisfactory products, both domestic and foreign, we suggest the above amendment.

*George E. Ewe:* The U. S. P. requirement of not less than 26.1 per cent. of CaO appears to be low. A standard for phosphorus content should be required. The four lots examined during the past two years assayed:

Sample No. 1.—33.2 per cent. CaO and 60.7 per cent. Ca pyrophos.
Sample No. 2.—30.0 per cent. CaO and 65.0 per cent. Ca pyrophos.
Sample No. 3.—38.18 per cent. CaO
Sample No. 4.—28.0 per cent. CaO

All of these samples answered all other U. S. P. requirements. The phosphorus content should be specified as it is by far the most important constituent.

## CAMPHORA.

*C. L. Black:* The paragraph beginning "The specific rotation" is in conflict with the definition of specific rotation. Possibly the insertion of "observed" before "in a 200 mm. tube" would correct the error.

## CANNABIS.

*H. C. Colson, Jr.:* 1. An impartial laboratory, *e. g.*, the Hygienic Laboratory, should be asked to prepare and distribute a standard Fluidextract of Cannabis to laboratories making physiological assays.

2. A revision of present biological standard doses for Cannabis preparations. The following doses represent the experience of this laboratory as to the degree of activity of standard Cannabis preparations, *viz.:*

| | | |
|---|---|---|
| F. E. Cannabis | 0.10 mil | per kilo dog |
| Tr. Cannabis | 1.00 mil | per kilo dog |
| Ext. Cannabis | 0.04 Gm. | per kilo dog |

By having such standard Cannabis preparations on hand, it would tend to make the products of different manufacturers more uniform in strength and also the work of different laboratories would be more comparable. The present standards for Cannabis are entirely too high, as has been shown by tests in this and other laboratories. The present physiological test, as a whole, has been unsatisfactory and may be properly considered as little better than a qualitative test.

*W. A. Pearson:* See THIS JOURNAL, for October 1917.

## CAPSICUM.

*Dr. A. R. L. Dohme:* The percentage of ether-soluble oleoresin should be reduced. We have found that it is almost impossible to obtain capsicum with 15 per cent. of oleoresin. The average yield in oleoresin is about 12 per cent.

## CODEINA.

*Dr. A. R. L. Dohme:* Assay processes for the alkaloid and the sulphate should be given. An assay process is given for the phosphate, but not for codeine and codeine sulphate. Both at times are liable to vary in the amount of water present.

*Prof. Harold B. Myers:* Nomenclature of opium derivatives. It is confusing and inconsistent to list methyl-morphine under the heading codeine and to retain the scientific name for diacetyl-morphine.

## DIACETYLMORPHINÆ HYDROCHLORIDUM.

*Dr. Thomas S. Blair:* Delete from the Tenth Revision. Heroin has become a menace to society and anything possible should be done to remove the menace. In our work in the Bureau of Drug Control, heroin gives us more trouble than does any other drug, and for the reason that it is the favorite of the criminal addict. Addiction to it is very readily established. There is no question of the therapeutic usefulness of heroin properly employed. We wish that its manufacture and sale would be prohibited utterly; but its almost universal use by physicians makes this improbable. Its deletion from the U. S. P. would be a very proper first step in suppressing this dangerous drug.

*George E. Ewe:* The U. S. P. statement that diacetylmorphine hydrochloride is "insoluble in chloroform at 25° C." is not strictly correct. It is suggested that the statement be altered to read "soluble in chloroform at 25° C."

No. 1. A diacetylmorphine hydrochloride which melted at about 231° C. with slight darkening, yielded an unweighable ash upon ignition and answered all other U. S. P. requirements, was added to chloroform, which answered all U. S. P. requirements, in small portions with agitation of the mixture after each addition, with the result that the diacetylmorphine hydrochloride was obviously quite soluble in the chloroform.

No. 2. Another strictly U. S. P. diacetylmorphine hydrochloride was shaken with U. S. P. chloroform with the same result of obvious solubility.

No. 3. A third diacetylmorphine hydrochloride melting at 229° C. with slight darkening and answering all other U. S. P. requirements was added to U. S. P. chloroform in small portions. As much as 3 Gm. per 100 mils was dissolved in this experiment. The experiment was then stopped.

No. 4. A fourth diacetylmorphine hydrochloride, answering all U. S. P. requirements, was added to U. S. P. chloroform and shaken until a considerable portion of the salt remained undissolved. The mixture was then filtered and an aliquot part evaporated to dryness and the residue of diacetylmorphine hydrochloride was heated at 100° C. to constant weight. It was found that 100 mils of the chloroform solution contained 37.46 Gm. of diacetylmorphine hydrochloride.

## DIGITALIS.

*Prof. Frederick J. Wulling:* The methods of *physiological standardization* ought to be further studied with a view toward inclusion of a greater number of such standardizations into the coming revision. Coöperation should be had in this respect from medical men, especially from the pharmacologists of medical schools. When we were asked to prepare large quantities of physiologically standardized tincture of digitalis for the Medical Department of the Army, we naturally expected to standardize tincture of digitalis according to the U. S. P. method, but we were requested to use the cat method. At first we used Hatcher's ouabain cat method and later, upon further conference, we abandoned the use of ouabain in the end reaction. Out of this and some minor but related experience we have learned that physicians generally want the digitalis assayed by the cat method and not by the U. S. P. method.

*H. C. Colson, Jr.:* Under Digitalis, Strophanthus, and Squill substitute Houghton's 12-hour frog method for the one now recommended by the U. S. P. IX.

Strophanthin "K" and Strophanthin "G" should be investigated by the A. Ph. A. Committee on Physiological Assaying, with a view to recommending which is the better standard for biological assays. The investigaton should deal with the chemical as well as the physiological phases of the problem.

Adoption of standard tables of doses and H. T. U. per mil for digitalis, strophanthus, and squill preparations. The experience of this laboratory (Sharp and Dohme) has shown the present methods to be unsatisfactory and such as do not give concordant results. See paper by Colson, THIS JOURNAL, January 1918, criticising the U. S. P. IX. 1-hour frog method.

Experiments by this laboratory show that the test period can be made 24 hours without materially changing the results and at the same time rendering the observation of the end-point more convenient for the average laboratory.

Houghton and others claim that Strophanthin "K" has an average M. L. D. of 0.000.001 Gm. per Gm. frog and hence contains an average of 100,000 H. T. U. per Gm. I have not been able to corroborate this claim. Many experiments made in this laboratory on different samples of strophanthin Kombe and employing the M. S. D., M. L. D. frog methods, as well as the M. L. D. cat method, have shown that by all methods Strophanthin "K" and Strophanthin "G" have practically the same toxicity and that the average M. L. D. for strophanthin "K" is 0.000.0005 Gm. per Gm. frog or an equivalent of 200,000 H. T. U. per Gm.

In this connection I would recommend that coöperative work be done by the members of the A. Ph. A. Committee in order to ascertain whether Ouabain or Strophanthin "K" should be made the standard for the biological assays of the heart tonics and also the average number of H. T. U. of each per Gm. frog.

Standards: 24-hour, 12-hour, M.L.D. } or M. L. D. Method

| | | H. T. U./mil |
|---|---|---|
| *Squill* | | |
| Fluidextract U. S. P. | 0.0012 mil/Gm. | 80 |
| Tincture U. S. P. | 0.012 mil/Gm. | 8 |
| *Strophanthus* | | |
| Tincture U. S. P. | 0.00025 mil/Gm. | 400 |
| *Digitalis* | | |
| Fluidextract U. S. P. | 0.0012 mil/Gm. | 80 |
| Tincture U. S. P. | 0.012 mil/Gm. | 8 |

The above differs in some instances from the standards of Houghton, but the experience of this laboratory has shown that such changes are warranted.

## ELIXIR AROMATICUM.

*S. L. Hilton:* Substitute Sugar 319 Gm. for 375 mils of Syrup. This is recommended because it is simpler and overcomes the making or using of syrup that has been made, eliminating thereby the introduction of spores.

## ELIXIR GLYCYRRHIZÆ.

*W. H. Stone:* This elixir is recommended for deletion as there is no demand for it.

## EMETINÆ HYDROCHLORIDUM.

*George E. Ewe:* A quantitative acidity test with a limit of 0.3 per cent. absolute HCl is preferable to the present requirement that a 1-in-20 solution be only "slightly acid" to litmus. See *American Journal of Pharmacy* for May 1919, pages 278–279. Excessively acid products are irritating upon injection.

A quantitative test for cephaeline with a limit of 3 per cent. is preferable to the present test. The test for cephaeline in the U. S. P. IX rules out the majority of the Emetine Hydrochloride on the market, which it reacts with, yet a material proportion of cephaeline is not present. A definite basis for comparison is necessary in order to prevent controversy.

## EMPLASTRUM BELLADONNÆ.

*American Drug Manufacturers' Association:* Acting on the advice of its Committee on Standards and Deterioration, the American Drug Manufacturers' Association recommends that

the Pharmacopoeial standard for belladonna plaster be changed from that of the U. S. P. IX to that of the British Pharmacopoeia of 1914. This recommendation is based, first, on the scarcity of the drug belladonna; second, the difficulty of obtaining extracts of proper consistency and strength to make plasters; and, third, on the necessity of conserving the stock of belladonna for other important medicinal purposes.

The U. S. P. IX requires belladonna plasters to contain not less than 0.35 per cent. or not more than 0.40 per cent. of mydriatic alkaloids. The British Pharmacopoeia of 1914 established a standard of 0.25 per cent. of the alkaloid of belladonna.

In explanation thereof, it may be stated that the standard of belladonna plasters in the British Pharmacopoeia was 0.5 per cent., but not very long after its adoption the British Pharmaceutical Conference endorsed the standard 0.25 per cent. alkaloid, and the latter strength became the popular plaster, leading the British revisers of the Pharmacopoeia in 1914 to adopt the standard of 0.25 per cent. alkaloid. We may also call attention to the fact that in the Pharmacopoeia VII, the standard was approximately 0.3 per cent. alkaloid. It has been found in practice that a plaster containing this amount, 0.25 per cent. belladonna alkaloid, will give satisfactory therapeutic results. While the manufacturers of medicinal plasters have adopted this standard as an emergency war standard, they believe it should be adopted also as a practical standard in the U. S. P. In so doing there will be secured uniformity with the British Pharmacopoeia, thus covering the greater part of the world where belladonna plasters are sold.

The Association also recommends that the U. S. P. VIII process for assaying belladonna plaster be adopted by the Committee in place of that of the 9th Revision. Experience has shown that the process of the 9th Revision is unreliable in the hands of chemists generally. They have been troubled by emulsions with which have come variations that have run into material amounts, in some cases sufficiently great to vitiate the accuracy of the work.

On the other hand, the method of the 8th Revision in the hands of chemists generally has given results as nearly concordant as those obtained on the average with assay processes of other substances.

## EXTRACTUM ACONITI.

*George E. Ewe:* A reduction in alkaloidal standard to 1.6 to 2.0 and a corresponding change in the physiological standard is suggested. (See Aconitum, above.)

*H. C. Colson, Jr.:* Preparation of a standard extract, a standard fluidextract, and a standard tincture of aconite by an impartial laboratory, *e. g.*, the Hygienic Laboratory, and the distribution of samples thereof to laboratories making physiological assays is recommended.

Substitution of a 24-hour test period for the present 12-hour guinea pig test is also recommended.

Seasonal variations, or the difference in susceptibility of various lots of guinea pigs should be ascertained and allowed for by the use of aconitine, a standard sample of which should also be distributed by a designated laboratory.

A standard table of doses for each type of aconite preparation should be incorporated in the description of the physiological assay of aconite. These tables should be worked out by Committee on Physiological Testing of the American Pharmaceutical Association.

Such preparations would be of great service in biologically standardizing aconite preparations. With such standards on hand, the preparations of different manufacturers should be approximately uniform in strength.

The results of many aconite assays made in this laboratory (Sharp and Dohme) have shown that a 24-hour test period gives practically the same per cent. activity as does the present 12-hour period, and furthermore, the former period is a more convenient one for the average laboratory to use.

In comparative tests, or in coöperative work by the various laboratories these recommendations, if carried out, would tend to give more reliable and concordant results than can be obtained by present methods.

## EXTRACTUM HYDRASTIS.

*W. H. Stone:* A reduction of standard to 8 to 9 per cent. is suggested. It is practically impossible to get an extract of 9 to 11 per cent. strength and it is sometimes necessary to fortify the extract with hydrastine alkaloid. A standard of 8 to 9 per cent. can be maintained on a practical scale.

*George E. Ewe:* The standard of 8 per cent. alkaloids is suggested. The standard of the fluidextract is 1.8 to 2.2 per cent. The solid extract should be four times the strength of the fluidextract. It is more difficult to make a solid extract of present U. S. P. strength than a fluidextract of present U. S. P. strength.

EXTRACTUM PHYSOSTIGMATIS.

*George E. Ewe:* U. S. P. method has not given reliable results in my hands. A more reliable method is proposed. See THIS JOURNAL, p. 1006, December 1919.

FERRUM REDUCTUM.

*George E. Ewe:* Practically all reduced iron on the market contains sulphides in excess of the U. S. P. allowance, yet we have never received a complaint of annoying eructations of $H_2S$ following the use of this material. A quantitative test should be included in the U. S. P. based on the $BaSO_4$ method. See p. 99 of "Commercial Laboratory Notes," Petty. A maximum allowance of sulphur should be included in the U. S. P. based on what manufacturers have found to be acceptable to the trade and practical to adhere to. The U. S. P. test appears to be too stringent or the market quality needs improvement.

FLUIDEXTRACTUM ACONITI.

*George E. Ewe:* A reduction in alkaloidal standard to 0.4 to 0.5 Gm. per 100 mils and a corresponding change in the physiological standard is suggested. See Aconitum above.

*H. C. Colson, Jr.:* See comments under Extractum Aconiti.

FLUIDEXTRACTUM ASPIDOSPERMATIS.

*George E. Ewe:* It is suggested that this fluidextract be directed to be assayed and that the standard be 1 per cent. total alkaloids. An assay similar to that for fluidextract of cinchona would be satisfactory. We have had no difficulty in maintaining the standard of 1 per cent.

FLUIDEXTRACTUM CASCARÆ SAGRADÆ.

*Bertha Mueller:* It is recommended that the formula of the U. S. P. VIII replace the present formula. The present formula is not workable. It is a physical impossibility to extract cascara with water, as it will not percolate through the drug, but causes an undue swelling of the same with a corresponding clogging, and eventually fermentation sets in. It is most unfortunate that the formula of the Eighth Revision was not retained, as it is workable and yields a highly satisfactory product.

FLUIDEXTRACTUM CASCARÆ SAGRADÆ AROMATICUM.

*Bertha Mueller:* It is recommended that the formula of the U. S. P. VIII, with the technic somewhat simplified, replace the present formula. Mix the cascara, licorice root, and magnesium oxide thoroughly, moisten with the menstruum given in the U. S. P. VIII. Allow to macerate for 48 hours and extract according to the U. S. P. VIII directions.

The present formula is not workable for the same reason as that given under fluidextract of cascara sagrada. If it is deemed advisable to use saccharin for the purpose of sweetening, though it does not seem necessary, the amount used should be reduced. The present official preparation is altogether too sweet.

FLUIDEXTRACTUM CIMICIFUGAE.

*W. H. Stone:* Change of menstruum from U. S. P. alcohol to a mixture of alcohol 3 parts and water 1 part is suggested. This menstruum will easily exhaust the drug and will reduce the cost of manufacture.

FLUIDEXTRACTUM COLCHICI SEMINIS.

*W. H. Stone:* It is suggested that the yield be obtained by direct percolation. The drug is easily exhausted if properly powdered and the application of heat to the extra percolate is liable to decompose the alkaloids that may be present.

FLUIDEXTRACTUM ERGOTÆ.

*John K. Thum:* It is recommended that the use of hydrochloric acid, or any acid for that matter, in the menstruum for extracting this drug be dropped. The presence of acid prevents its use for hypodermic purposes. The extraction of this drug by the use of chloroform as

recommended in the N. F. for the making of the aqueous extract of ergot, or ergotin, shows that an acid is unnecessary, as this preparation gives evidence of all the therapeutic properties characteristic of this drug. Physicians often have need to give this drug hypodermatically and the fluidextract offers a ready means so to do as its high content of alcohol assures its being sterile, but the presence of an acid makes its administration very painful to the patient.

FLUIDEXTRACTUM GLYCYRRHIZÆ.

*Bertha Mueller:* It is recommended that the formula in the U. S. P. Seventh Revision replace the present formula. Though the formulas given in the U. S. P. VIII and in the present U. S. P. may be workable in the hands of large manufacturers who have the necessary equipment for forcing the directed menstruum through the drug, such is not the case with retail druggists. The formula is not workable for the same reason as that given in connection with fluidextract of cascara.

*Dr. J. M. Francis:* Any one attempting to produce this fluidextract in accordance with the instructions of the U. S. P. cannot but be impressed with the fact that it is "an utter pharmaceutical abomination."

The drug contains such a large amount of extractive matter of several different kinds that when extracted with water as prescribed, the resultant fluidextract will be almost as heavy as ordinary glycerin and moreover, it will contain a floating precipitate which makes the fluid exceedingly unsightly.

If one attempts to age the fluid so as to permit of this precipitated matter settling out, the final result is that the pharmacist will throw away about 50 per cent. of the total fluidextract, as the precipitated portion, amounting to about half the liquid, will not clear up, and moreover it cannot be filtered. I am calling attention to this matter, as it is one of the subjects which should receive preferred attention at the hands of the proper committee on revision.

FLUIDEXTRACTUM GRANATI.

*W. H. Stone:* It is recommended that this fluidextract be deleted as there is very little demand for it.

FLUIDEXTRACTUM HYOSCYAMI.

*Prof. A. R. Bliss, Jr.:* The Pharmacopoeia directs that 25 mils of the sample be used and the directions for assaying fluidextract of belladonna root be followed. The latter method recommends that after measuring out 10 mils of fluidextract of belladonna root, 10 mils of water, and 2 mils of ammonia, water be added, followed by the shaking out process with chloroform. While these amounts of water and ammonia water are sufficient to precipitate the resins and alkaloids in the belladonna assay where only 10 mils of the sample are used, they are insufficient to throw them out in the case of 25 mils of fluidextract of hyoscyamus. The results of this method as described in the U. S. P. are usually incorrect and often furnish the basis for controversy. In revising this method, the amounts of water and ammonia water should be increased sufficiently to bring about complete precipitation. With this change the writer believes the method will be satisfactory.

FLUIDEXTRACTUM PODOPHYLLI.

*W. H. Stone:* A menstruum of 4 parts alcohol and 1 part of water is suggested. This menstruum effectually extracts the drug and results in a reduction of cost of manufacture.

*George E. Ewe:* An assay process and standard is suggested. The following method, based on the U. S. P. process for the assay of podophyllum, is suggested:

Assay for resin. Sample 10 mils. Evaporate in a 200 mil beaker until reduced to the consistency of a thin syrup. Pour 10 mils of ice water containing 0.1 mil of concentrated hydrochloric acid into the syrupy concentrated sample of fluidextract and stir until all lumps are broken up. Immediately filter off the precipitated resin while still ice-cold on a counterpoised filter, using suction and washing the beaker, resin and filter thoroughly, using not more than 25 mils of ice water. Dry the resin in the filter to constant weight at 100° C. Standard 3 per cent. dry resin.

NOTE: The drying of the resin in the air is a tedious and long drawn out procedure. It is better to dry the filter and resin in the oven at 100° C. This will not necessitate a change in the standard, as air-dried podophyllin resin contains but little moisture. To prove this we al-

lowed 5 lots of U. S. P. resin from different sources to remain spread out and exposed to the air, but protected from dust by 2 layers of cheese-cloth, for 2 days, and then determined the amount of loss at 100° C. The respective losses were 3.64 per cent., 4.00 per cent., 4.02 per cent., 4.03 per cent., and 4.08 per cent.

While this method is satisfactory if a standard of 3 per cent. dry resin is adopted, it does not give the full yield of resin like the "shake-out" method proposed by Parke, Davis & Company, when the present U. S. P. was in process of formation.

While we have had no great experience with the shake-out method we have determined that it gives higher yields of resin. The resin answers all U. S. P. requirements. The method yields more concordant results in different hands. (This is because the precipitation method involves precipitating and washing partially water-soluble resins in the presence of water.)

## FLUIDEXTRACTUM SABAL.

*W. H. Stone:* It is suggested that the fresh, ripe berries be used instead of the partially dried ripe fruit and that U. S. P. alcohol be used as a menstruum. Fresh berries make a preparation superior to the dry berries. U. S. P. alcohol must be used in order to properly extract the fresh berries and keep the fluidextract clear and bright.

## FLUIDEXTRACTUM SENEGÆ.

*Bertha Mueller:* It is recommended that the senega, previous to extraction, be treated with boiling water; that diluted alcohol be used as menstruum; that the acidity of the finished product be ascertained and the amount of the neutralizing agent be gauged accordingly.

The following formula is submitted:

| | |
|---|---|
| Senega in No. 30 powder | 1000 Gm. |
| Boiling Water | 2000 mils |
| Potassium hydroxide | |
| Diluted Alcohol to make | 1000 mils |

Pour 2000 mils of boiling water upon the drug, mix thoroughly, cover up tightly and allow to stand for a period of 6 to 8 hours. Then dry at a moderate heat, and exhaust the drug with diluted alcohol. Neutralize the finished product with the required amount of potassium hydroxide, ascertained by titration.

The present U. S. P. formula yields an unstable preparation, and the syrup prepared from it is equally unsatisfactory because of its instability. It is quite impossible to neutralize fluidextract of senega with any degree of accuracy unless the acid content of the preparation has been ascertained, because the acidity varies with different lots of the drug. Inasmuch as diluted alcohol exhausts the drug quite as completely as a stronger alcoholic menstruum, there appears to be no good reason for using the latter.

## FLUIDEXTRACTUM SCILLÆ.

*Dr. A. R. L. Dohme:* The manufacturing process should be revised. See paper by Messrs. Grantham and Colson, THIS JOURNAL, November 1918.

*H. C. Colson, Jr.:* The present method for manufacturing fluidextract of squill is cumbersome, and it has been found that a simplified process (see THIS JOURNAL, November 1918) yields a product which is physiologically and chemically the equal of one obtained by the present U. S. P. method.

## FLUIDEXTRACTUM SUMBUL.

*W. H. Stone:* U. S. P. alcohol is suggested as the menstruum. My experience shows that U. S. P. alcohol is a better means of exhausting the drug than the mixture of alcohol, 4, water, 1, now prescribed.

## FLUIDEXTRACTUM TRITICI.

*W. H. Stone:* A temperature of not over 120° F. should be specified during evaporation of the aqueous percolate previous to the addition of the alcohol. The aqueous percolate contains

a large quantity of caramelizable substances and if a temperature above 120° F. is employed it is liable to become scorched, thus giving a bad odor, taste and color. A superior preparation is attainable.

## FLUIDEXTRACTUM UVAE URSI.

*W. H. Stone:* Diluted alcohol is better for exhausting the drug than the present menstruum. Practical experience bears out this statement.

## FLUIDEXTRACTUM ZINGIBERIS.

*W. H. Stone:* Yield by direct percolation is suggested. Concentration of extra percolate results in great loss of active constituents. Careful direct percolation to 1000 mils yields practical exhaustion. Time and labor of manufacture are reduced.

*George E. Ewe:* A standardization is recommended. The following method has given excellent results in these laboratories (H. K. Mulford and Company): Sample 15 mils. Place on 10 Gm. of oak-sawdust contained in a 6-inch evaporating dish, mix well and allow to dry spontaneously for about 6 hours or until the odor of alcohol is eliminated. Place the impregnated sawdust in a bottle; add 10 mils of ether. Shake for four hours. Filter off an aliquot of 50 mils. Place the aliquot in a tared 250 mil beaker. Allow the ether to evaporate on the steam-bath and dry at 110° C. to constant weight. Correct the weight of non-volatile ether extract by subtracting that found in the oak-sawdust by a blank determination. This blank determination should be made on a large lot of oak-sawdust and the assayed oak-sawdust then reserved for this assay.

Regarding standard, we have found all of the fluidextracts which we have made to range between 2.00 and 3.2 Gm. non-volatile extract soluble in ether, but the standard for the fluidextract should correspond to that of the drug so that the most suitable standard would be not less than 2 Gm. per 100 mils. Standardization is desirable for purposes of uniformity of commercial preparations.

## GAMBIR.

*George E. Ewe:* Much of the gambir offered is soft and not friable as required by the U. S. P. Softness is due to moisture. The U. S. P. should describe the two conditions of gambir. A maximum moisture content of 12 per cent. should be prescribed for friable gambir.

Soft gambir should be described as follows: Irregular pieces of various sizes, externally pale grayish brown to reddish brown, more or less dull and porous; internally soft and of a light grayish brown or dull earthy color; sometimes with a hard friable exterior of varying thickness; inodorous; taste bitterish and very astringent. (Microscopic examination as in U. S. P. IX.)

Macerate 1 Gm. of gambir, etc. (U. S. P. IX, not less than 75 per cent. of soft gambir is soluble in water and not less than 70 per cent. in alcohol).

Ash not more than 8 per cent.

NOTE: Soft gambir may be used in place of friable gambir, using 1 per cent. more of the soft gambir for each per cent. of moisture which it contains over 12 per cent.

The following table shows the results of examination of 7 lots of soft gambir and 10 lots of friable gambir examined since September 1916.

GUM GAMBIR

SOFT.

| Moisture. | Alcohol-soluble. | Water-solule. | Ash. | All other U. S. P. requirements. |
|---|---|---|---|---|
| .... | 86.6 | .... | .... | O.K. |
| .... | 83.4 | .... | .... | O.K. |
| .... | 80.7 | .... | .... | O.K. |
| Excessive | | | | |
| .... | 85 | .... | .... | O.K. |
| 41.1 | 87.9 | 96 | 4 | O.K. |
| .... | 77.8 | .... | | O.K. |

FRIABLE

| | | | | |
|---|---|---|---|---|
| .... | .... | .... | 3.5 | O.K. |
| .... | .... | .... | 2.0 | O.K. |
| .... | 58 | .... | .... | O.K. |
| .... | 55 | .... | .... | O.K. |
| .... | 72.5 | 80.5 | 6.5 | O.K. |
| .... | 74.1 | 81.1 | 5.6 | O.K. |
| .... | 58 | 65.6 | 4.59 | O.K. |
| .... | 83.9 | .... | .... | O.K. |
| .... | 76.1 | .... | .... | O.K. |
| .... | 60.15 | 58.63 | 6.03 | O.K. |

Unfortunately the figures corresponding to the blank spaces in the table were not recorded by the analysts.

Also see "Note on Soft Gambir" in "Laboratory Notes" by George E. Ewe and Chas. E. Vanderkleed, presented at the annual meeting of the American Pharmaceutical Association in 1914.

In lieu of adopting standards for soft gambir, the Revision Committee should seek the coöperation of the jobber in placing none but friable gambir on the market.

Friable gambir is preferable, but since the jobber finds it necessary to offer the soft variety, standards should be set for the soft variety by the Revision Committee.

## GELSEMIUM.

*Alfred S. Burdick:* Include an assay process for Gelsemium.

## GUAIACOLIS CARBONAS.

*C. L. Black:* It has been found that pure specimens may fail to give the test for guaiacol, U. S. P. IX, page 211, through the interference of minute quantities of acid taken up by the ether specified for the extraction. It is necessary to wash the ether and pass through a dry filter, or better still, use chloroform for the extraction.

## GUAIACUM.

*George E. Ewe:* It appears to be difficult to obtain guaiac with an alcohol solubility of 85 per cent. It is recommended that this requirement be reduced to 80 per cent. See L. J. Lipman's contribution to Committee on Drug Market, Proceedings Pennsylvania Pharmaceutical Association 1919, p. 86. A reduction is warranted, owing to the present market quality.

## HEXAMETHYLENAMINA.

*L. T. Andrews:* Suggested method of assay. Add 35 mils of $\frac{N}{1}$ $H_2SO_4$ V. S. to 1 Gm. of Hexamethylenamine, boil on an open flame for five minutes and neutralize the excess of sulphuric acid with $\frac{N}{1}$ NaOH V. S., using methyl-orange T. S. as indicator. The amount of $\frac{N}{1}$ $H_2SO_4$ V. S. taken, less the amount of $\frac{N}{1}$ NaOH V. S. required, multiplied by 0.035, indicates the per cent. of absolute Hexamethylenamine.

## HYDRARGYRI SALICYLAS.

*Dr. A. R. L. Dohme:* The assay process might be simplified. Treat a weighed amount of salt with sulphuric acid and nitric acid and titrate the solution thus obtained with potassium sulphocyanide as directed under mercury.

## HYDRASTINA.

*Alfred S. Burdick:* The reaction of a saturated solution of hydrastine in alcohol is practically neutral to litmus paper, not alkaline.

## HYDRASTIS.

*George E. Ewe:* The standard of 2.5 per cent. ether-soluble alkaloids appears to be low. Data for the establishment of a higher standard is submitted. Results obtained upon assay are as follows:

| Year. | No. of assays. | Lowest assay. | Highest assay. | Average. | Standard. | Number. Above Standard. | Number. Below Standard. |
|---|---|---|---|---|---|---|---|
| 1911 | 11 | 2.884 | 4.850 | 3.740 | 2.5 | 11 | 0 |
| 1912 | 5 | 3.80 | 4.850 | 4.197 | 2.5 | 5 | 0 |
| 1913 | 6 | 2.90 | 4.09 | 3.41 | 2.5 | 6 | 0 |
| 1914 | 2 | 3.22 | 3.42 | 3.32 | 2.5 | 2 | 0 |
| 1915 | 5 | 3.16 | 3.98 | 3.63 | 2.5 | 5 | 0 |
| 1916 | 10 | 2.15 | 5.59 | 3.83 | 2.5 | 9 | 1 |
| 1917 | 9 | 2.65 | 3.86 | 3.29 | 2.5 | 9 | 0 |
| 1918 | 2 | 3.94 | 4.47 | 4.20 | 2.5 | 2 | 0 |
| 1919 | 10 | 2.97 | 4.06 | 3.64 | 2.5 | 10 | 0 |
| Totals | 60 | | | | | 59 | 1 |

A higher standard appears to be desirable to accord with the market quality of this drug.

## HYOSCYAMUS.

*George P. Koch:* See recommendations under Belladonna Folia.

*George E. Ewe:* The whole dried plant either with or without the root harvested in the flowering or fruiting stage and before the plant has matured and dried should be made official instead of only the leaves and flowering and fruiting tops. Cost of U. S. P. hyoscyamus would be reduced since the harvesting is simplified. An increased supply is made available.

## LINIMENTUM CAMPHORAE.

*I. Lewyn:* I recommend the use of peanut oil in place of cottonseed oil. Prepared with peanut oil I have obtained a very clear stable product, whereas with Cottonseed oil it often turns turbid or leaves a sediment; furthermore, cottonseed oil, as obtained in the market, is quite often mixed with other oils. Peanut oil is also more economical, and I believe the body absorbs it more readily.

*Dr. A. R. L. Dohme:* The limits of the requirement should be more liberal, considering the difficulties which are encountered in the assay process. We recommend the following procedure for assaying the liniment:

The liniment is first polarized directly. Since, however, in controlling the quality of the camphor used in making the preparation a 20 per cent. alcoholic solution rotates less than a 20 per cent. solution of camphor in cottonseed oil, the ratio being 1 : 1.19, a factor has to be applied. The percentage of camphor in the liniment can be calculated by applying the following formula:

$$\frac{4.15 \times R_I \times 2.032}{R_{II}}$$

in which 4.15 equals the reading in a 100 mm. tube, a solution of 10 Gm. of official camphor in q. s. alcohol to make 100 mils.

$R_I$ is the reading of the camphor liniment in a 100 mm. tube.

$R_{II}$ is the reading of a 10 per cent. alcoholic solution *w/v* of the camphor obtained from the liniment.

The present assay process is tedious and reliable only within certain limits.

## LINIMENTUM CHLOROFORMI.

*I. Lewyn:* I recommend the use of peanut oil instead of soap liniment. It is more economical and more stable and can be prepared instantly, thus preventing the evaporation of the chloroform.

## LINIMENTUM SAPONIS.

*I. Lewyn:* I recommend the use of camphorated oil (prepared with peanut oil as per my suggestion) in place of soap and camphor:

| | |
|---|---|
| Camphorated Oil | 250 Gm. |
| Oil of Rosemary | 700 mils |
| Alcohol | 700 mils |
| Water, q. s., to make | 1000 mils |

Shake the mixture until it is thoroughly clear.

This process is simple and is more economical since the price of Castile soap has advanced.

LINIMENTUM AMMONIAE.

*I. Lewyn:* I recommend the use of peanut oil instead of sesame oil. Sesame oil is more expensive and it does not keep so well. Peanut oil is a home-product.

LINIMENTUM CAMPHORÆ.

*Edward A. Wickham:* It is recommended that olive oil be used in place of cottonseed oil. Olive oil does not get "gummy" as cottonseed oil has a tendency to do. It can as safely be rendered sterile and would, no doubt, serve as well for hypodermatic use.

LIQUOR ARSENI ET HYDRARGYRI IODIDI.

*Dr. A. R. L. Dohme:* The total arsenic as well as the arsenic in the arsenous state should be determined also. It has been stated that the arsenic in the arsenous state is easily oxidized to arsenic in the arsenic state.

LIQUOR CRESOLIS COMPOSITUS.

*Dr. A. R. L. Dohme:* A method for determining the water in this preparation should be given.

*Bertha Mueller:* It is recommended that cottonseed oil be substituted for linseed oil, and that the technic for making the solution be simplified.

Dissolve the caustic potash in hot water in a container that will retain heat. When solution has taken place, add the oil followed by the alcohol. Stir until saponification has taken place, then allow to remain undisturbed for about a half hour to insure complete clarification. Then add the cresol with occasional stirring until a clear solution is obtained.

Cottonseed oil is less expensive and has a more agreeable odor than linseed oil. The present U. S. P. directions are unnecessarily complicated.

*The Barrett Company:* Omit alcohol from formula and cut down excess of potassium hydroxide used. Use 60 Gm. of potassium hydroxide in place of 80 Gm. or 43 Gm. of sodium hydroxide in place of 54 Gm. The quantity of potassium hydroxide given in the formula is a decided excess and is both unnecessary and harmful. The revised figure still leaves a slight excess of hydroxide over the amount necessary to saponify the linseed oil. The sodium hydroxide figure is changed in proportion to the potassium hydroxide. The use of alcohol in this compound is unnecessary and should be omitted.

*S. L. Hilton:* To overcome the tedious process of making soap from linseed oil and the saving of time, this solution can be made extemporaneously.

| | |
|---|---|
| Cresol | 500 Gm. |
| Oleic Acid | 226 Gm. |
| Sodium Hydroxide | 35 Gm. |
| Water q. s. to make | 1000 mils |

Weigh the oleic acid in a tared flask or bottle and add the cresol, mix well, then add the sodium hydroxide previously dissolved in 100 mils of water, shake thoroughly and add water to make 1000 mils.

This is a very much simpler process, is less expensive, and makes a much better preparation.

*(To be continued.)*

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The greatest skill is not in enlisting the services of men but in enlisting their interests, their best efforts and their loyal support.

Criticizing the work of organizations is a simple matter but criticism often rushes in where construction fears to tread.

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Conducted by H. V. Arny, Reporter on the Progress of Pharmacy, Chairman of the Committee on Research.

On this page, each month, will be found a list of articles on pharmaceutical research that appear in the pharmaceutical and other scientific journals of the world. Whenever possible, the list appearing a certain month will record articles appearing in American journals of the preceding month and articles appearing in foreign journals will be recorded as quickly as possible after the journals reach the Reporter.

All articles appearing in these lists will be presented in abstract form in the bound volumes of the Year Book, which will be issued as soon after the end of the year represented as editing and printing conditions permit. Those desiring abstracts immediately can obtain same for a fee of one dollar each by communicating with H. V. Arny, 115 West 68th St., New York, and arrangements can also be made for securing photographic reproduction of entire articles at moderate prices when such are desired.

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*Boll. chim. farm.;* through *J. Soc. Chem. Ind.*, 39 (Jan. 15, 1920), 42A

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*J. Am. Med. Assoc.;* through *Am. J. Pharm.*, 92 (Jan. 1920), 57

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*J. Ind. Eng. Chem.*, 12 (Feb. 1920), 145

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*Lancet;* through *Am. J. Pharm.*, 92 (Jan. 1920), 53

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*J. Am. Pharm. Assoc.*, 9 (Feb. 1920), 118

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*J. Canadian Med. Assoc.;* through *Am. J. Pharm.*, 92 (Jan. 1920), 61

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*J. Soc. Chem. Ind.*, 39 (Jan. 15, 1920), 1 T

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*Ber.;* through *J. Ind. Eng. Chem.*, 39 (Jan. 31, 1920), 80A

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*Ber.;* through *J. Ind. Eng. Chem.*, 39 (Jan. 31, 1920), 80A

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*Pharm. Era*, 53 (Feb. 1920), 51

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Ointment of phenol
*Pharm. J.*, 104 (Jan. 3, 1920), 9

Hindley, H.
Assay of iron filings
*Chem. and Drug.*, 92 (Jan. 31, 1920), 150

Hold
Thymolphthalein as indicator
*Pharm. Zentralh.;* through *Drug. Circ.*, 64 (Feb. 1920), 64

Holmes, E. M.
Manna of scripture
*Chem. and Drug.*, 92 (Jan. 3, 1920), 25

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Synthesis of hematoxylin
*J. Ind. Eng. Chem.*, 12 (Feb. 1920), 173

Hudson, C. S., and Sherwood, S. F.
Melezitose in honey
*J. Am. Chem. Soc.*, 42 (Jan. 1920), 116

Huerre, R.
Constituents of lemon juice
*J. pharm. chim.;* through *Am. J. Pharm.*, 92 (Jan. 1920), 26

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Perfume in chloroform anesthesia
*J. Med. de Bordeaux;* through *Pharm. J.*, 104 (Jan. 3, 1920), 6

Jensen, A. S.
Camphorated oil in sciatica
*Ugeskrift, laeger;* through *Pharm. J.*, 104 (Jan. 3, 1920), 6

Keenan, G. L.
Detection of mowrah meal in insecticides
*J. Am. Pharm. Assoc.* 9 (Feb. 1920), 144

Knollmann, H. J.
Making radioactive brick
*J. Am. Chem. Soc.;* through *Pharm. J.*, 104 (Jan. 10, 1920), 28

Kolthoff
Sulphide assay
*Pharm. Weekblad;* through *Drug. Circ.*, 64 (Feb. 1920), 63

Kroeber
Testing alkalinity of glassware
*Pharm. Zentralh.;* through *Drug. Circ.*, 64 (Feb., 1920), 63

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Standardizing acid and alkali volumetric solutions
*Arch. Pharm.;* through *Drug. Circ.*, 64 (Feb. 1920), 63

Lascoff, J. L.
Abuse of the "Shake-Well" label
*J. Am. Pharm. Assoc.*, 9 (Feb., 1920), 153

Launoy, L., and Fujimori, Y.
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*Compt. rend. Soc. Biol.;* through *J. Soc. Chem. Ind.*, 39 (Jan. 31, 1920), 81A

Lunde
Camphorated oil in hemoptysis
*Bull. int. hygiene;* through *Pharm. J.*, 104 (Jan. 10, 1920), 28

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*Policlinico;* through *Pharm. J.*, 104 (Jan. 17, 1920), 46

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*The Prescriber;* through *Am. J. Pharm.*, 92 (Jan. 1920), 48

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*Trans. Roy. Soc. Canada;* through *Am. J. Pharm.*, 92 (Jan. 1920), 25

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*Pharm. Era*, 53 (Feb. 1920), 50

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*Pharm. Post;* through *Drug. Circ.*, 64 (Feb. 1920), 64

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*Ber.;* through *J. Ind. Eng. Chem.*, 39 (Jan. 31, 1920), 76A

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*Am. Drug.*, 68 (Jan. 1920), 22

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Conseals and capsules
*Spatula*, 26 (Jan. 1920), 129

Oettinger
Removing rancidity of fats
*Z. angew. Chem.;* through *Drug. Circ.*, 64 (Feb. 1920) 64

Perrin
Filicic acid assay
*Rep. Pharm.;* through *Chem. and Drug.*, 92 (Jan. 10, 1920), 54

Rictet, A., and Goudet, H.
Distillation of certain glucosides *in vacuo*
*Helv. chem. Act.;* through *J. Soc. Chem. Ind.*, 39 (Jan. 15, 1920), 40A

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*J. Am. Med. Assoc.;* through *Am. J. Pharm.*, 92 (Jan. 1920), 20

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*Pharm. J.*, 104 (Jan. 3, 1920), 7

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Calcium in solution of hydrogen dioxide
*Pharm. J.*, 104 (Jan. 3, 1920), 8

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Lipolytic enzymes in olive oil
*J. Ind. Eng. Chem.*, 12 (Feb. 1920), 156

Rossi, A.
Formaldehyde color reactions
*Boll. Chim. Farm.;* through *J. Soc. Chem. Ind.* 39 (Jan. 15, 1920), 42A

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Cadmium tungstate in radiography
*L'Union. pharm.;* through *Pharm. Era*, 53 (Feb. 1920), 51

Sacher
Assay of iron and lead in mixtures
*Chem. Ztg.;* through *Drug. Circ.*, 64 (Feb. 1920), 64

Schuppli
Assay of lactic acid by oxidation
*Trav. Chim. Aliment Suisse;* through *Am. J. Pharm.*, 92 (Jan. 1920), 56

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*Arch. Pharm.;* through *J. Ind. Eng. Chem.*, 39 (Jan. 31, 1920), 81A

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Selective breeding of medicinal plants
*Chem. and Drug.*, 92 (Jan. 31, 1920), 150

Sollmann, T.
History of dragon's blood
*J. Am. Pharm. Assoc.*, 9 (Feb. 1920), 141

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Aluminum in plants
*Biochem. Ztg.;* through *Drug. Circ.*, 64 (Feb. 1920), 64

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Halogen absorption of turpentine
*Analyst;* through *J. Ind. Eng. Chem.*, 39 (Jan. 31, 1920), 72A

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The precipitation of magnesium hydroxide
*J. Am. Pharm. Assoc.*, 9 (Feb. 1920), 148

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Review of the literature of emulsions
*J. Ind. Eng. Chem.* 12 (Feb. 1920), 177

Thomson, J. L.
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*Pharm. J.*, 104 (Jan. 3, 1920), 7

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Melting point determinations
*Chem. and Drug.*, 92 (Jan. 31, 1920), 149

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*Midland Druggist;* through *Am. J. Pharm.*, 92 (Jan. 1920), 26

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*Schweiz. Apoth. Ztg.;* through *Pharm. J.*, 104 (Jan. 3, 1920), 6

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Rubber assay
*Z. angew. Chem.;* through *Drug. Circ.*, 64 (Feb. 1920), 64

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*Ber.;* through *J. Soc. Chem. Ind.*, 39 (Jan. 31, 1920), 81A

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*Arch. Pharm.;* through *J. Ind. Eng. Chem.*, 39 (Jan. 31, 1920), 81A

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*Biochem. Ztsch.;* through *J. Soc. Chem. Ind.*, 39 (Jan. 15, 1920), 42A

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*Ber.;* through *J. Soc. Chem. Ind.*, 39 (Jan. 31, (1920), 81A

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*J. pharm. chim;* through *Am. J. Pharm.*, 92 (Jan. 1920), 24

Wirth, E. H.
Chenopodium and its volatile oil
*J. Am. Pharm. Assoc.*, 9 (Feb. 1920), 127

Woker, G., and Maggi, H.
Diastatic properties of formaldehyde
*Ber.;* through *J. Ind. Eng. Chem.*, 39 (Jan. 31, 1920), 77A

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Pyrethron
*J. Tokyo Chem. Soc.;* through *Drug. Circ.*, 64 (Feb. 1920), 63

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*J. Soc. Chem. Ind.*, 39, (Jan. 15, 1920), 14R

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Mercurochrome, 220
*J. Am. Med. Assoc.;* through *Am J. Pharm.*, 92 (Jan. 1920), 23

# COMMITTEE REPORTS

## REPORT OF THE COMMITTEE ON NOMINATION METHODS OF THE A. PH. A.*

Your committee appointed to study the nomination methods of other associations and bring in a report embodying recommendations for such changes as in our opinion are deemed advisable, have performed the duty assigned them and also have considered matters referred to them through the Executive Committee of the Council, and herewith submit the following:

There are several distinct methods of nominating or of electing officers of organizations similar to ours.

The *first* method is to have both nomination and election take place at the annual meeting, nominations being made by some particular body to whom is assigned that responsibility, elections being subsequently held by the members actually present at the annual meeting.

This was the method formerly followed by our own Association and is still retained by the National Association of Retail Druggists and until recently by the American Public Health Association, who discarded it last year on the ground of its being unsatisfactory.

* This report is printed now so as to give time for consideration by the members to this important subject prior to the 1920 A. Ph. A. meeting. The Committee invites suggestions.

The second method is for nomination or election or both to be placed in the hands of the Council or House of Delegates or some similar representative body. This method is now followed by the American Public Health Association, the American Medical Association, and by the American Chemical Society, so far as elections are concerned, but not as to nominations.

The *third* method is to have the entire membership take part by means of a mail ballot in nominations or elections or both.

This is the method followed by the American Chemical Society for nominations and by our American Pharmaceutical Association for elections, but by no national scientific organization for both.

No method seems to be entirely satisfactory but there are certain fundamental points to be considered before deciding which combination of methods will be most effective and satisfactory for our own Association.

Your committee is of the opinion that the Association which permits the largest proportion of its membership to assist in the selection of its officers is best fulfilling its requirements as a representative body, in which there is likely to be the minimum of criticism of the association being run by cliques or groups.

There are two ways in which this responsibility sharing can be arranged. First, by the mail ballot, which permits every member of the Association to have a voice whether he is able to attend the meeting or not, and second, the annual meeting method which permits those who actually take the greatest amount of interest and do the greater part of the constructive work of the organization to have a voice in its government.

It would seem to your committee that a combination of these two methods would work to the best advantage of the Association and to the members as well. The method of nominating, therefore, should be placed in the hands of the entire Association by mail ballot, as is done by the American Chemical Society. Each member of the Association receives a blank upon which he may fill in the name of one person for each of the officers to be elected. These ballots must be returned by a certain time and are counted by the Secretary and a board of tellers. The subsequent election in the American Chemical Society is by the Council who choose from the four candidates receiving the highest number of votes for each office.

It would seem that the three highest would be more in harmony with our present procedure, and we therefore recommend that the Executive Committee be authorized to make such changes in the by-laws as to permit this change in our nomination methods, and we suggest that the nominations be made in this manner, at least three months prior to the annual meeting of the Association.

We further suggest that the elections be held at the annual meeting at one of the general sessions, to be specified in the by-laws and announced upon the programme, and that the candidates to be voted on be the three candidates for each office receiving the highest number of votes in the nominating ballot.

We recommend that the Executive Committee be authorized to make such changes in the by-laws as to permit this change in the election methods and that these changes be proposed and voted upon at the present meeting so as to become effective in 1921 for the first time.

We have furnished an advance copy of this report to the Executive Committee and also to the General Secretary, for the purpose of enabling the first named body to make the necessary proposed changes in the by-laws and to the Secretary in order that our report may be sent to the membership at large in advance of the meeting, so that full publicity may be given to the proposed changes and every opportunity afforded for discussion before final action is taken.

One of the disadvantages of our present election method is the strategic advantage gained by position on a printed list. It is believed that this criticism applies only to mail ballots and that no change in this respect need be made for an election to be held at the annual meeting, where discussions and conferences precede the election and there is every opportunity for the participants in the election to familiarize themselves with the merits of the respective candidates.

We believe that the present procedure should be continued, however, of announcing in connection with the nominees' names, their geographic habitat and occupation, and that any details for simplifying the mechanical features of the nomination and election be left to the General Secretary, who may consult with the other officers if he deems it advisable.

(Signed) CHARLES H. LAWALL,
WM. C. ANDERSON,
C. O. EIGELOW.

# PROCEEDINGS OF THE LOCAL BRANCHES

"All papers presented to the Association and its branches shall become the property of the Association, with the understanding that they are not to be published in any other publication than those of the Association, except by consent of the Committee on Publication."—By-Laws, Chapter X, Art. III.

Reports of the meetings of the Local Branches should be mailed to the Editor on the day following the meeting, if possible. Minutes should be typewritten, with wide spaces between the lines. Care should be taken to give proper names correctly, and manuscript should be signed by the reporter.

## CHICAGO.

The 108th monthly meeting of the Chicago Branch of the American Pharmaceutical Association was held at the Hotel LaSalle, Friday evening, February 27, at eight o'clock. More than fifty gathered for the dinner preceding the meeting and a large additional number came in for the meeting. President Clark presided.

The subject of the evening was "Candy—How it is Made and How the Retailer Should Stock It." Messrs. Dicken and Balmer, representatives of the Brach Candy Co., led in the discussions. Mr. Dicken, who is at the head of the purchasing department and the control laboratory, described the sources of many of the two hundred and more materials entering into the composition of candy, including particularly chocolate, vanilla, sugar, corn syrup, nuts, spices and flavors. Mr. Balmer, interested more particularly in the manufacturing, described most vividly the process of manufacture of many of the different kinds of candy. He included in his talk the method by which his firm, producing two million pounds of candy per week, fills its orders and loads nine cars per day. This is accomplished largely by the use of conveyers, the force of men employed being relatively small. The discussion which followed was participated in by many, and resulted in much valuable information for the retailers of candy.

E. N. GATHERCOAL, *Secretary.*

## CITY OF WASHINGTON.

The February meeting of the City of Washington Branch, A. Ph. A. was called at 8.15 P.M. at 808 Eye St., N. W., February 25, first Vice-President F. L. Lewton presiding.

The minutes of the last meeting were read and approved.

The treasurer's report was then read and accepted.

There being no further business the balance of the evening was devoted to a paper on the regulations for the enforcement of the amended Harrison Act by B. W. Andrews, Assistant Counsel to the Prohibition Commissioner, and a discussion of the same by Messrs. Bradbury, Hilton, Gross, Mayo, Franzoni, Kalusowski. The paper will appear in full in a subsequent issue of the JOURNAL.

A vote of thanks was tendered Mr. Andrews.

H. C. FULLER, *Secretary.*

## NEW YORK.

A symposium on the subject of changes in the new United States Pharmacopoeia was held by the New York Branch of the American Pharmaceutical Association at the New York College of Pharmacy on Monday evening, February 2.

H. V. Arny, member of the U. S. P. Revision Committee and chairman of the Special Committee on Inorganic Chemicals, discussed "General Aspects of Pharmacopoeial Revision."

Henry H. Rusby, member of the U. S. P. Revision Committee and chairman of the Special Committee on Nomenclature, spoke on "Suggestions for the Forthcoming Revision of the U. S. P., with Special Reference to Vegetable Drugs." (See this issue of the Journal A. Ph. A.)

Robert R. Gerstner, of the Oil Products Co., took as his topic, "Suggestions for the New Pharmacopoeia, with Special Reference to Petroleum Products."

## NORTHWESTERN.

The annual meeting of the Northwestern Branch A. Ph. A., in joint session with the Scientific Section, Minnesota State Pharmaceutical Association, was held in Minneapolis, February 11, 1920, Dean Frederick J. Wulling in the chair. The following papers were read:

1. Data on Food and Drug Analysis—Dr. C. H. Rogers.
2. British Year Book of Pharmacy—F. A. Upsher Smith.
3. On the Organization of American Pharmacy—E. L. Newcomb.
4. Some Further Studies on Digitalis—Dr. E. L. Newcomb.
5. Some Impressions on French Pharmacy—R. Bartleson.
6. Drug Adulteration Report—Dr. G. Bachman.
7. A Practical Antidote—C. D. Johnson.
8. Address—President Marion L. Burton.
9. Report, College of Pharmacy Committee—A. J. Kline.
10. The Annual Historical Paper on the College of Pharmacy—Dean F. J. Wulling.
11. Scholastic and Professional Standing—A. J. Kline.

After the reading of papers the members of the Northwestern Branch held the annual business meeting, Chas. H. Huhn presiding. The officers were re-elected, as follows:

*President*, Chas. H. Huhn, Minneapolis; *Vice-President*, R. L. Morland, Worthington; *Secretary-Treasurer*, F. A. Upsher Smith, 2002 Iglehart St., St. Paul, Minn.

The Secretary read a letter which had been sent to President M. L. Burton, University of Minnesota, on behalf of the officers of the local branch, urging the Board of Regents to take such steps as might be necessary to retain the services of Dean Frederick J. Wulling. In his reply, President Burton, on behalf of the Board of Regents, stated that the services of Dean Wulling to the College of Pharmacy are highly appreciated and that the Board hopes very much to bring about such a result as will lead Dean Wulling to stay in Minnesota.

Dr. C. H. Rogers opened a brief discussion on the Standardization of Drugs in the State of Minnesota, and on motion of Dean Wulling it was unanimously agreed to confer with the officers of the State Association and offer such coöperation as it might be possible to give.

The Secretary-Treasurer announced that the funds of the Branch were in good shape, there being a cash balance of $38.84 in his hands.

It was generally agreed that the Branch should resume its pre-war activities, in holding several meetings during the year. The next meeting will be arranged for on or about April 20.

The meeting then adjourned.

F. A. UPSHER SMITH,
*Secretary-Treasurer.*

## PHILADELPHIA.

The February meeting of the Philadelphia Branch of the American Pharmaceutical Association was held at the Philadelphia College of Pharmacy, Tuesday evening, February 10, 1920, Ivor Griffith in the chair.

The minutes of the previous meeting were read and approved. Four new members were proposed and elected. The letter appealing for members sent out by Mr. J. C. Peacock, Chairman of the Membership Committee, was read and directed to be sent to all the local branches as a model for similar purposes. The Chair appointed the following Committees to report at the next meeting. Nominations, E. F. Cook, *Chairman*, W. L. Cliffe and H. W. Youngken; *Auditing*, F. P. Stroup, *Chairman*, R. P. Fischelis and Ambrose Hunsberger.

The scientific program followed. Prof. Charles H. LaWall read a paper on "Interesting Notes of the Magendie Formulary." The era of this formulary was at the time when many of our very useful alkaloids were being discovered and it was interesting to note the discrepancy in the knowledge concerning them then and as we now know them. Prof. LaWall covered all the important parts of the book and in his usual interesting manner finished his paper with the audience wishing there were more of it.

John K. Thum read a paper on "Pharmacopoeial Notes." He urged some changes in a number of U. S. P. and N. F. formulas particularly paying attention to reducing alcoholic contents when possible.

Ivor Griffith gave a practical demonstration in the preparation of Salvarsan and Neo-Salvarsan.

Interesting discussions followed each paper and after a vote of thanks to the contributors the meeting adjourned.

ELMER H. HESSLER, *Secretary.*

## ST. LOUIS.

### MINUTES OF THE DECEMBER MEETING.

The regular monthly meeting of the St. Louis Branch of the American Pharmaceutical Association was held at the St. Louis College of Pharmacy Thursday evening, December 18, 1919. The meeting was addressed by Prof.

Francis Hemm of the St. Louis College of Pharmacy on the subject, "Some Phases of Modern Pharmacy" and Mr. B. H. St. John, chief chemist, of Wm. R. Warner & Co., on the subject "Alcohol, Its Legitimate Use in Pharmaceutical Preparations and Possible Substitutes."

After the reading and approving of the minutes of the preceding meeting, other regular business was ordered referred to the executive committee and the meeting passed to the order of election of officers, with the following results:

*President*, B. H. St. John; *Vice-president*, F. A. Federer; *Secretary*, M. Ebbert Webber; *Treasurer*, H. M. Whelpley.

Following the election, Mr. St. John pledged his support and coöperation to the branch. This was followed by comments and suggestions for a successful year in 1920 by others.

L. E. PRICHARD, *Secretary*.

MINUTES OF THE JANUARY MEETING.

The regular monthly meeting of the St. Louis Branch of the American Pharmaceutical Association was held at the Planters Hotel, Friday evening, January 30, 1920. The dinner was attended by 51 members, including the following guests; Dr. James H. Beal, Chairman, Board of Trustees, U. S. Pharmacopoeial Convention; Dr. Harvey W. Wiley, President, U. S. Pharmacopoeial Convention; Prof. Chas. H. LaWall, Chairman, Committee of Revision; Fred. W. Meissner, member of the Board of Trustees; Prof. L. E. Sayre, President, American Pharmaceutical Association; Lewis C. Hopp, Chairman of the Council A. Ph. A.; Geo. M. Beringer, member of the Executive Committee A. Ph. A.; E. G. Eberle, editor of the Journal American Pharmaceutical Association and Secretary H. C. Christensen of the National Association of the Boards of Pharmacy.

Owing to the illness of President B. H. St. John, Vice-President F. A. Federer called the meeting to order and after announcing that the regular business would be postponed until the next meeting called Dr. H. M. Whelpley to the Chair.

Following a few well chosen remarks, the Chairman introduced the speaker of the evening, Dr. J. H. Beal, who addressed the meeting on the subject, "How shall we deal with the ever increasing flood of regulatory and restrictive legislation." His solution of this problem was summed up as follows: "By the creation or proper enlightenment of public opinion, because excessive law making results in excessive law breaking."

This address was followed by short talks by Dr. Harvey W. Wiley, Prof. Chas. H. LaWall, and President L. E. Sayre, who made an appeal for new members for the American Pharmaceutical Association.

In response to this appeal on the part of President Sayre, Dr. Whelpley announced that the St. Louis Branch has already secured about 25 new members and that the campaign to be waged had not been completely launched.

Applications for membership in the American Pharmaceutical Association were received from F. H. Swift, 3862 Olive St., and Geo. E. Gray, care the Pfaudler Co., 440 Pierce Bldg.

The meeting then adjourned.

M. EBBERT WEBBER, *Secretary*.
Approved: B. H. ST. JOHN, *President*.

VIRGINIA.

The Virginia Section of the American Pharmaceutical Association gave an informal reception to the World War Veterans of Virginia on Wednesday night, January 21, 1920, at College Hall, Richmond, Va. The program consisted of a supper, music, and talks.

Dr. R. W. Miller made the address of welcome, which was responded to by C. D. Fox, of Roanoke, a member of the State Board of Pharmacy. Richard Gwathmey gave a short talk on the drug business as viewed by the wholesaler. Dr. John Bell Williams, who is both dentist and pharmacist, spoke on the value of organization and the benefits that were derived from it by the medical and dental professions in the recent war; also the conditions that exist in France as regards the pharmacist and the dentist. He pointed out how the pharmacist through organization of the right type received recognition in the French army, while the dentist through the lack of organization received no recognition, and brought home to us vividly our own shortcomings. Secretary A. L. I. White of the State Board of Pharmacy, explained in detail the conditions under which credit is to be allowed by the State Board of Pharmacy for time spent in the Medical Department of the Army or Navy, and the necessary steps to be taken in order to obtain it. Prof. W. F. Rudd made an earnest appeal

to all present to identify themselves with the American Pharmaceutical Association, which resulted in a 100 percent drive, netting 25 War Veteran members and 15 additional regular applications. President J. E. Jackson, of the State Board of Pharmacy, spoke on the advantages of a pharmaceutical education to a pharmacist.

Short talks on the advancement of pharmacy were made by Messrs. Williamson, Woody and Fackenthall. H. C. Littlejohn spoke on the value of the School of Pharmacy of the Medical College of Virginia; what it has meant to the druggists of Virginia, and what it will mean in the future.

Messrs. G. F. Hendley, S. Weinstein, and B. W. Johnson told of their experiences while overseas.

The entire State was well represented. We feel proud of old Virginia in being able to add so many members to the A. Ph. A., for she has more than furnished her quota and has hardly more than started. We are planning to have a large Virginia delegation to attend the meeting next spring in Washington.—*The Virginia Pharmacist.*

# COUNCIL BUSINESS

A. PH. A. COUNCIL LETTER NO. 18.

PHILADELPHIA, January 9, 1920.

To the Members of the Council:

*Motion No. 20 (Election of Active Members; applications Nos. 116 to 126 inclusive), Motion No. 21 (Election of Soldier and Sailor Members); applications Nos. 280 to 317 inclusive), Motion No. 22 (Election of Soldier and Sailor Members; applications Nos. 318 to 347 inclusive),* have each received a majority of affirmative votes.

The motion of R. P. Fischelis, Chairman of the World War Veterans Section for a further appropriation of $500 for the World War Veterans Section to carry on its membership campaign, such appropriation to be for the period ending March 1, 1920 (Council Letter No. 16), referred to the Committee on Finance in accordance with the by-laws of the Council, has been acted upon by the Committee on Finance, for which committee Chairman Koch reports as follows:

"The Finance Committee feels that inasmuch as the Association has committed itself to the plan of the Section for securing Soldier and Sailor members, the committee cannot well refuse its approval of an appropriation to carry on the work, irrespective of the personal opinion and judgment of the members of the Finance Committee."

The question is on the motion which Chairman Fischelis wishes modified to extend the time limit to April 1, as some time has been lost since the motion was proposed. The motion therefore, reads:

*Motion No. 23 (Appropriation for World War Veterans Section).* Moved by R. P. Fischelis, seconded by Dr. F. E. Stewart, that a further appropriation of $500 be granted the World War Veterans Section to carry on its membership campaign, such appropriation to be for the period ending April 1, 1920.

In support of this motion, Chairman Fischelis presents the following statement:

"I have read Council Letter No. 16 containing comments of Dr. F. J. Wulling and Prof. C. M. Snow with regard to further appropriations to the World War Veterans Section with a great deal of interest. No doubt these letters have influenced the thought of members of the Council on this subject and I think it is only fair that the officers of the World War Veterans Section should be permitted to make a statement on the subject.

"In the following statement I do not mean to criticize destructively, but I am anxious that actual facts be known to the members of the Council before they vote on the proposition of supplying further funds to the new Section.

"Dr. Wulling speaks of a plan to enroll the coöperation of the state associations in bringing the World War Veterans Section to the attention of veterans and the plan itself is a good one. Prof. Snow declares the procedure of granting free membership to World War Veterans is a violation of the by-laws. This may or may not be the case. I submit that the time to have considered both of these subjects was last August at the convention of the American Pharmaceutical Association. As a matter of fact, the question of the legality of this procedure under the by-laws of the Association was raised and a majority of the Council members present at the meeting in

New York declared it legal. What I want to bring out very strongly is that the Association officially created the World War Veterans Section and commissioned the officers of this Section to carry on a campaign to bring into the Association all world war veterans connected with pharmacy. The officers of the Section agreed to do their best to carry on such a membership campaign and asked for certain assistance which was granted.

"Is it, therefore, in keeping with the traditions of the American Pharmaceutical Association, or is it giving the officers of the new Section a square deal, to have this work started and then interrupted by interposing all sorts of objections, which it was the business of the Association to consider and which it did consider, before the Section was organized?

"In the eyes of the officers of the Section the situation is frankly this: The American Pharmaceutical Association decided to grant free membership to soldier and sailor pharmacists, ostensibly as a reward for their faithful service to the Government in time of stress. The real idea back of this gift was that members receiving free membership for a year might be induced to become regular members after the expiration of the year. The gift consisted of nothing more than declaring the man a member of the Association. He was to receive no publications, so this free membership costs the Association nothing. Those who organized the World War Veterans Section laid great emphasis in their remarks to the officers on the fact that it was incumbent upon the officers to get every man who served in the Army and Navy into the Association on a free membership basis and thus prepare him for paid membership the following year. It did not take a Solomon to see that the offer of membership without publications was not much of an attraction to anyone and it would, therefore, be necessary to carry on a propaganda to induce men to avail themselves of this offer. Such propaganda work costs money and the American Pharmaceutical Association, as well as any other association, might just as well make up its mind now as any other time that a propaganda to try to reach ten thousand men and bring them into an association, without securing any of the benefits of the Association, is going to cost something.

"In the first place, lists of service men had to be secured. This involved writing to colleges, state boards, state associations, draft boards, etc. Publicity work in the pharmaceutical journals had to be carried on, which involved somebody's time in writing the articles, besides duplicating them and mailing them. Some literature had to be prepared in order to place before these men the proposition, because free copies of the journal could not be sent out. Letters had to be written to all of the men who applied for membership and all who might become prospective members. Postage, stationery, mimeographing, application blanks, etc., had to be provided. Can anyone reasonably expect such letters to be written personally by officers of a section and will anyone deny that it takes a stenographer's full time to write thirty or forty letters a day besides taking care of routine office work? Furthermore, is a salary of $25.00 a month excessive for supervising such work? That is the amount allowed the present Secretary of the Section. No other Section officers receive any remuneration. Can officers of the Section be expected to accept urgent invitations to branch meetings with the possibility of securing many new members and pay their own traveling expenses? If the answer to all these questions is in the affirmative, further funds should be denied the World War Veterans Section, but if the Association really wants to make good its plan to bring these men into the Association, the answer must be in the negative and funds must be provided. The work has been begun, and is now at a point where the expenditure of a little more money will bring the desired result.

"The officers are willing to stick and keep on giving of their time, which could be much more profitably employed, but they are not in a position to dig down into their own pockets and finance the proposition.

"The application blank for membership in the World War Veterans Section which was originally printed and handed to the officers for use in their campaign, did a great deal to retard the progress in securing members because it reads: 'Approving the objects of the American Pharmaceutical Association, I hereby apply for membership in the Association, without dues and without publications for one year, after which I agree to continue membership, and pay the annual dues of $5.00.' How anyone supposed to be the recipient of a gift could be asked to sign such a blank is beyond our comprehension and when the officers of the Section took this up with

the officers of the A. Ph. A., each of these officers disclaimed the responsibility for the statement and agreed that it was damaging to the membership campaign. We have devised a new blank and as soon as the old supply is used up, it will be substituted.

"Prof. Snow's remark that an appropriation is being asked for to induce men to take something for nothing should be answered by the paragraphs above. The position of the officers of the Section was not that of trying to induce men to take something for nothing, but rather to take practically nothing for something, the something being a virtual contract to continue membership with the payment of the annual dues after the first year. How many of the present members of the American Pharmaceutical Association would consider the honor of calling themselves members, without receiving either the JOURNAL or the Year Book, worth going after?

"A great deal of work has been done by the Section thus far, and if further appropriations are not forthcoming, the Association will lose the effect of this hard pioneer work which is beginning to bear fruit. I trust the members of the Council will take the broad view of the matter and vote the necessary funds to carry on." J. W. ENGLAND, *Secretary.*

415 N. 33RD STREET.

## A. PH. A. COUNCIL LETTER NO. 19.

PHILADELPHIA, January 19, 1920.

To the Members of the Council:

Jeannott Hostmann writes:

"Enclosed you will find negative vote on Motion No. 23. I have several reasons for voting as I do. The main one is that I feel it is setting a very bad and dangerous precedent. Section officers should not receive compensation. Nor should they receive travelling expenses unless these are voted by the Association or the Council."

Frederick J. Wulling writes:

"Council Letter No. 18 just received. On the usual post card I am recording my affirmative vote for Motion No. 23.

"I would like to call Dr. Fischelis' attention to what I said in the paragraph beginning at the bottom of page 36, Council Letter No. 16. I expressly disavowed any criticism of the committee or the W. W. V. Section officers. I simply stated that somebody was not farsighted enough in the beginning when this question first arose and that the work having gone thus far it may be our duty to see it through. When writing you last I was not quite decided but the statement of the chairman of the financial committee in Council Letter No. 18 prompts me to vote in the affirmative on the Motion."

Hugo H. Schaefer writes:

"Enclosed you will find a copy of the program of last Monday's meeting (January 12) of the New York Branch. After listening to a number of interesting papers on the question as to whether the chemical industry in this country can successfully compete against foreign manufacturing during normal times, it was regularly moved by Dr. Arny and seconded by Mr. Bigelow, that the Secretary of the Branch be requested to communicate with the Secretary of the Council of the American Pharmaceutical Association requesting the Council to give consideration to the appended resolutions recommending the principle of the Longworth bill. The following are the resolutions:

"WHEREAS, The establishment of a complete or self-sustained coal-tar chemical and dye industry is a national necessity because of its well defined character as a key industry in our economic life, and

"WHEREAS, This industry has a much deeper significance in that it constitutes a vital reserve both as to personnel and supplies for our Army and Navy in modern warfare, and

"WHEREAS, This industry is also essential for supplies and synthetic drugs for the health of the Army, Navy and general public in peace and in war, and

"WHEREAS, This country possesses an abundance of raw material for such an industry, ample capital, and chemists capable of solving the many scientific and technical questions involved, as evidenced by the splendid progress of the past three years, and

"WHEREAS, This initial period, with all of its attendant difficulties, has not been adequate to admit of the efficient production in domestic plants of all colors needed by the American consumers, and

"WHEREAS, The greatly depreciated rate of exchange in that country which in the past has manufactured the bulk of the world's supply of dyes presents a new and threatening factor in all transactions of an international character.

*"Therefore be it Resolved,* First, that we urge all Americans to stand loyally by the young industry which embodies such far-reaching potentialities of service and protection for our country;

"Second, that every needful safeguard be thrown around this industry by the Congress of the United States, especially through the imposition of effective import duties and the provision of a temporary licensing system along the general lines embodied in H. R. 8078 known as the Longworth bill."

Program: "Coal Tar Crudes and Intermediates" by D. W. Jayne, Ph.D., Manager Chemical Department, The Barrett Company; "Colors and Dyes," by J. Merritt Matthews, Ph.D., Editor Co. or Trade Journal; "Medicinal Chemicals," by A. A. Wasserscheidt, Manager New York Branch, Mallinckrodt Chemical Works; "Pharmaceuticals," by Frank C. Starr, New York Sales Manager, Sharp & Dohme; "The Situation as Viewed by the Chemical Merchant Doing an International Business," by Charles L. Huisking, President Charles L. Huisking, Inc.

J. W. ENGLAND, *Secretary.*
415 N. 33RD STREET.

A. PH. A. COUNCIL LETTER NO. 20.

PHILADELPHIA, January 22, 1920.

To the Members of the Council:

*Motion No. 23* (*Appropriation for World War Veterans Section*) has received a majority of affirmative votes.

*Motion No. 24* (*Election of Active Members*). You are requested to vote on the following applications for active members:

No. 128. Lawrence Lester Bergevin, Quay, Okla., rec. by M. A. Eisele and Frank Schachleiter.

No. 129. Carlos C. English, Booneville, Ark., rec. by Frank Schachleiter and Wm. B. Day.

No. 130. Dwight N. Bowles, 302 W. Edwards St., Springfield, Ill., rec. by J. H. Feltham and C. F. Reinhardt.

No. 131. Paul H. Todd, 323 N. Rose St., Kalamazoo, Mich., rec. by H. M., Whelpley and J. C. Falk.

No. 132. Harold MacAdams, 172 Plainfield Ave., Metuchen, N. J., rec. by H. V. Arny and Jeannot Hostmann.

No. 133. George David Woodson, Haworth, Okla., rec. by H. M. Whelpley and J. C. Falk.

No. 134. Glenn Arthur Haldeman, 3623 Powelton Ave., Philadelphia, Pa., rec. by Robert Simpson and J. W. England.

No. 135. Allan Franklin Bigelow, U. S. S. Pennsylvania Flagship, New York, rec. by Stephen Wierzbicki and Oscar G. Ruge.

No. 136. Charles William Daley, U. S. Naval Hospital, Mare Island, Cal., rec. by Thomas J. Porro and J. W. England.

No. 137. Albert Harrison Fendley, Leslie, Ark., rec. by Frank Schachleiter and Wm. B. Day.

No. 138. Mabel Leota Coats, 2501 Sherman Ave., Apt. 7, Omaha, Nebr., rec. by C. E. Gilland and H. C. Newton.

No. 139. Jules Bebie, Monsanto Chem. Wks., St. Louis, Mo., rec. by H. M. Whelpley and J. W. England.

No. 140. Ernest J. Hess, 1422 Pierce St., Sioux City, Iowa, rec. by H. M. Whelpley and J. W. England.

No. 141. Hunter Huddle, Orange Drug Co., Orange, Texas, rec. by Wm. B. Day and H. M. Whelpley.

No. 142. Marion H. Judy, Petersburg, W. Va., rec. by H. M. Whelpley and J. W. England.

No. 143. Carl F. Essig, 3642 A Shenendoah St., St. Louis, Mo., rec. by M. Ebbert Webber and H. M. Whelpley.

No. 144. Lawrence Winfred Hart, 4019 A Shaw Ave., St. Louis, Mo., rec. by J. Merner Noble and B. H. St. John.

No. 145. Clifford Luzerne Pugh, 4019 A Shaw Ave., St. Louis, Mo., rec. by B. H. St. John and Leslie E. Prichard.

No. 146. Otto Paul Meyer, 421 Clark Ave., St. Louis, Mo., rec. by M. Ebbert Webber and H. M. Whelpley.

No. 147. Mary Lynch Vogel, 1334 Morris St., Phila., Pa., rec. by Charles H. LaWall and M. R. LaWall.

No. 148. Raymond Francis Maguire, 224 E. Durham St., Mt. Airy, Phila., Pa., rec. by Wm. B. Day and J. W. England.

No. 149. Arthur Daniel New, 110 16th Ave., Columbus, Ohio, rec. by Edw. D. Davy and C. A. Dye.

No. 150. William Black, 4352 Page Bl., St. Louis, Mo., rec. by Wm. B. Day and E. N. Gathercoal.

No. 151. Arthur G. Wallace, 617 East 6th St., Okmulgee, Okla., rec. by A. P. Bethel and W. R. Jarrett.

No. 152. Russell C. Clark, Carrsville, Ky., rec. by M. A. Eisele and Frank Schachleiter.

No. 153. Merion A. Jones, 522 Mich. Ave., So., Big Rapids, Mich., rec. by Leonard A. Seltzer and A. A. Wheeler.

No. 154. George Tripp Townsley, 1539 N. 9th St., Phila., Pa., rec. by Elmer H. Hessler and Ivor Griffith.

No. 155. Jacob Silk, 6244 Larchwood Ave., Phila., Pa., rec. by Louis Gershenfeld and Charles H. LaWall.

No. 156. Ward Jennings Rice, 128 E. Vermont St., Indianapolis, Ind., rec. by Francis E. Bibbins and Mayne E. Parker.

No. 157. Ernest R. Crandall, Cass Tech. High School, Detroit, Mich., rec. by F. T. Bradt and Leonard A. Seltzer.

No. 158. Harry H. Latsis, 7203 Adams St., Forest Park, Ill., rec. by Wm. B. Day and E. N. Gathercoal.

No. 159. Herman Ferdinand Jacob, 7405 Madison St., Forest Park, Ill., rec. by Wm. B. Day and E. N. Gathercoal.

***Motion No. 25*** (*Election of Soldier and Sailor Members*). You are requested to vote on the following applications for soldier and sailor membership:

S. S. No. 348. Jesse C. Gordon, Cadiz, Ky., rec. by W. D. Walters and R. P. Fischelis.

S. S. No. 349. Robert K. Creager, 4019 A Shaw Ave., St. Louis, Mo., rec. by L. E. Prichard and H. M. Whelpley.

S. S. No. 350. Emerson Snyder Haines, Stuart Ave., Downingtown, Pa., rec. by H. Raymond Greenleaf and Charles S. Herron.

S. S. No. 351. Ruskin Billings Lawyer, 117 N. 10th St., Cambridge, Ohio, rec. by C. D. Margerum and W. D. Walters.

S. S. No. 352. Boleslaw C. Kucynski, 241 E. Main St., Fall River, Mass., rec. by H. G. Heinritz and W. D. Walters.

S. S. No. 353. Robert M. Snelson, 614 N. Broadway, Checotah, Okla., rec. by W. C. Alston and R. L. Hickman.

S. S. No. 354. Paul Lewis Hurd, 736 Buena Vista Ave., Alameda, Calif., rec. by F. H. Brooks and S. V. R. Hookin.

S. S. No. 355. Roger A. McDuffie, 222 S. Spring St., Greensboro, N. C., rec. by J. C. Wheatcroft and Wm. B. Day.

S. S. No. 356. Philip D. Gattis, 803 N. Bloodworth St., Raleigh, N. C., rec. by J. C. Wheatcroft and Wm. B. Day.

S. S. No. 357. Drew, Nicholson Bridges, cr. Rapides Drug Co., Alexandria, La., rec. by A. L. Soulier and J. S. Segura.

S. S. No. 358. Ralph S. Kiefer, 31 2122 Pst. N. W., Washington, D. C., rec. by W. D. Walters and R. P. Fischelis.

S. S. No. 359. Andrew Wallace Nixon, Webster, N. Y., rec. by D. A. LaMoy and W. D. Walters.

S. S. No. 360. David Teitelbaum, 112 Sutter Ave., Brooklyn, N. Y., rec. by W. D. Walters and R. P. Fischelis.

S. S. No. 361. Varner E. Erickson, cr. Gaines Drug Store, Edmond, Okla., rec. by W. D. Walters and R. P. Fischelis.

S. S. No. 362. Wilmer John Johnson, Gordon, Nebr., rec. by R. A. Lyman and E. H. Duyer.

S. S. No. 363. Arthur C. Shafranek, 11506 Union Ave., Cleveland, Ohio, rec. by W. D. Walters and R. P. Fischelis.

J. W. ENGLAND, *Secretary*.
415 N. 33RD STREET.

A. PH. A. COUNCIL LETTER NO. 21.
PHILADELPHIA, PA., January 29, 1920.

To the Members of the Council:

Charles H. LaWall writes:

"I am heartily in accord with the resolutions on the Longworth bill transmitted by the New

York Branch and move that the Council approve them and transmit the knowledge of that approval to the proper authorities."

Frederick J. Wulling writes:

"Concerning the resolutions recommending the principles of the Longworth Bill submitted by the New York Branch, let me say that there are many phases to this question, all of which ought to be studied quite thoroughly by those who will vote upon the resolutions if a motion for their adoption is made. We frequently do things without sufficient previous study. I have given the Longworth Bill some study and have read much of the discussion and debate on the bill as published in the Congressional Record beginning on page 6094 of the September 22nd issue. I have also read other references and talked with interested persons on both sides of the question, all with the result that at this stage of my study, I would be undecided how to vote on the resolutions, although I am inclined in favor of the principles of the bill. I would not, however, vote for or against the resolutions until I had given the matter maturer study. The subject is such an important and intricate one that the average person who is very busy can hardly find time to study it exhaustively. At this writing I do not quite see the need or the wisdom of the A. Ph. A. going on record in a matter that is so puzzling and perplexing to many who are studying it earnestly and carefully."

*Motion No. 26* (*Election of Active Members*). You are requested to vote on the following applications for active members:

No. 160. William Oscar Smith, 501 Clay Ave., Norfolk, Va., rec. by E. C. Wilson and T. R. Taylor.

No. 161. James H. Fentress, Commonwealth Products Corp., 417 Poschill Pl., Elizabeth, N. J., rec. by John M. Williams and G. W. Parisen.

No. 162. Roland Edward Kremers, Furman Hall, Vanderbilt Univ., Nashville, Tenn., rec. by Edward Kremers and E. A. Ruddiman.

No. 163. George W. Johnson, 509 N. 10th St., Richmond, Va., rec. by Samuel Weinstein and W. F. Rudd.

No. 164. Elliott Sylvester White, 501 E. Grace St., Richmond, Va., rec. by W. F. Rudd and J. W. England.

No. 165. Benjamin Edward Burnett, 522 N. 10th St., Richmond, Va., rec. by Samuel Weinstein and W. F. Rudd.

No. 166. Miss S. Varlet, R. F. D. No. 6, Box 51, Richmond, Va., rec. by Samuel Weinstein and W. F. Rudd.

No. 167. Miss F. Varlet, R. F. D. No. 6, Box 51, Richmond, Va., rec. by Samuel Weinstein and W. F. Rudd.

No. 168. Miss Hilda Saunders, 1104 Grove Ave., Richmond, Va., rec. by Samuel Weinstein and W. F. Rudd.

No. 169. William Moss Glebe, 501 Market St., Camden, N. J., rec. by G. M. Beringer, Jr.

No. 170. Frank James Merlak, 2132 W. 21st Pl., Chicago, Ill., rec. by Wm. B. Day and E. N. Gathercoal.

No. 171. Gilbert Eugene Spies, Manassas, Va., rec. by W. F. Rudd and Morris Phipps.

No. 172. Walter Lee Moose, Y. M. C. A. (Central) Cor. Cathedral & Franklin Sts., Baltimore, Md., rec. by James A. Black and O. W. Muehlhause.

*Motion No. 27* (*Election of Soldier and Sailor Members*). You are requested to vote on the following applications for soldier and sailor membership:

S. S. No. 364. Robert L. Greenwood, 309 S. Hamilton Ave., Chicago, Ill., rec. by Wm. B. Day and E. N. Gathercoal.

S. S. No. 365. Reuben August Rylander, 356 E. 56th St., Chicago, Ill., rec. by Wm. B. Day and E. N. Gathercoal.

S. S. No. 366. Anthony Zalubowski, 2220 Carolina St., Chicago, Ill., rec. by Frank H. Freericks and W. D. Walters.

S. S. No. 367. David Cohen, 3409 Douglas Blvd., Chicago, Ill., rec. by W. D. Walters and Frank H. Freericks.

S. S. No. 368. Clifford Elwood Youmans, Lion Store Pharm., Hammond, Ind., rec. by C. F. Hoffman and Frank H. Freericks.

S. S. No. 369. Albert Earl Gendreau, 5498 University Ave., Chicago, Ill., rec. by Frank H. Freericks and R. P. Fischelis.

S. S. No. 370. Isadore H. Gross, 5907 Prairie Ave., Chicago, Ill., rec. by E. N. Gathercoal and Wm. B. Day.

S. S. No. 371. Allan W. Jacks, 323 Liberty St., Morris, Ill., rec. by E. N. Gathercoal and Wm. B. Day.

S. S. No. 372. George Harper Sisson, 127 W. Lincoln Ave., Belvidere, Ill., rec. by Wm. B. Day and E. N. Gathercoal.

S. S. No. 373. Charles Joseph Havranek, 1158 W. Marquette Rd., Chicago, Ill., rec. by E. N. Gathercoal and Wm. B. Day.

S. S. No. 374. Clarence Andrew Hulden, 7813 S. Aberdeen St., Chicago, Ill., rec. by E. N. Gathercoal and Wm. B. Day.

S. S. No. 375. Ernest LeRoy Beezley, 1026 Blondeau, Keokuk, Iowa, rec. by R. R. Glenn and G. A. Kiedaisch.

S. S. No. 376. John Marquez, care Frederick Stearns & Co., Detroit, Mich., rec. by W. B. Day and J. W. England.

S. S. No. 377. Harry Preston Glander, 1300 Grand River Ave., Detroit, Mich., rec. by F. S. Gippen and L. C. Bieker.

S. S. No. 378. Mark Eldon Neville, 139 Genesee St., Waukegan, Ill., rec. by E. N. Gathercoal and W. B. Day.

S. S. No. 379. Edward C. Adams, Gastonia, Gaston Co., N. C., rec. by Wm. B. Day and J. W. England.

S. S. No. 380. Lyman C. Stevens, Seneca, Ill., rec. by H. G. Gerlack and W. B. Day.

S. S. No. 381. Gar James Oldacre, 618 N. Blackstone St., Jackson, Mich., rec. by W. B. Day and J. W. England.

S. S. No. 382. John Edwin Reed, 700 Main St., Gallitzin, Pa., rec. by Frank H. Freericks and W. D. Walters.

S. S. No. 383. Paul C. McConnell, 141 Robison St., Pittsburgh, Pa., rec. by A. E. Baier and J. A. Koch.

S. S. No. 384. Richard Vaughn Pryce, Main St., Ebensburg, Pa., rec. by A. E. Baier and J. A. Koch.

S. S. No. 385. Merl Baldwin, 400 Brushton Ave., Pittsburgh, Pa., rec. by A. E. Baier and J. A. Koch.

S. S. No. 386. Raymond Edward Dockrey, 411 E. 4th St., Oil City, Pa., rec. by A. E. Baier and J. A. Koch.

S. S. No. 387. Charles Jacob Weinberger, 3603 Beechwood Blvd., Pittsburgh, Pa., rec. by A. E. Baier and J. A. Koch.

S. S. No. 388. Alphonso Jacob Winters, 317 S. Main St., Butler, Pa., rec. by A. E. Baier and J. A. Koch.

S. S. No. 389. William John Phelan, 546 Maplewood Ave., Ambridge, Pa., rec. by A. E. Baier and J. A. Koch.

S. S. No. 390. Clarence Earl Watson, South Main St., Slippery Rock, Pa., rec. by A. E. Baier and J. A. Koch.

S. S. No. 391. J. Lee Austin, 31 N. Emily St., Crafton, Pittsburgh, Pa., rec. by A. E. Baier and J. A. Koch.

S. S. No. 392. Samuel T. Fleming, 1034 Franklin Ave., Wilkinsburg, Pa., rec. by A. E. Baier and J. A. Koch.

S. S. No. 393. Charles Clarence Gray, Weldon, Ill., rec. by E. H. Wisner and J. R. Palmer.

S. S. No. 394. Philip E. Nagle, 209 N. George St., Pottsville, Pa., rec. by W. D. Walters and Frank H. Freericks.

S. S. No. 395. Benjamin Aubrey McLarry, Pampa, Texas, rec. by R. P. Fischelis and W. D. Walters.

S. S. No. 396. Charles Aloysius Monaghan, E. Willow Grove Ave., Wyndmoor, Pa., rec. by W. D. Walters and R. P. Fischelis.

S. S. No. 397. Arthur N. Larson, 323 4th St., S. E., Watertown, S. D., rec. by E. L. Newcomb and D. D. Turner.

S. S. No. 398. Louis Silverman, 82 Herzl St., Brooklyn, N. Y., rec. by W. S. Silverman and W. D. Walters.

S. S. No. 399. Roger Vincent Francis, Potter, Nebr., rec. by W. D. Walters and R. P. Fischelis.

S. S. No. 400. Maurice Edward Cleary, 82 Cottage St., Leominster, Mass., rec. by W. D. Walters and R. P. Fischelis.

S. S. No. 401. Jesse Grossman, 657 Morris Park Ave., New York, N. Y., rec. by C. F. Cartwright and G. Sheabear.

S. S. No. 402. Willie Guss Taylor, care Ingram Drug Co., Thomasville, Ga., rec. by J. W. White and B. S. Inman.

S. S. No. 403. Leonard Ruebly Maier, 1125 Pleasant St., Boulder, Colo., rec. by E. W. Redding and W. E. Binder.

S. S. No. 404. Arthur E. Jones, 1539 Jefferson Ave., E., Detroit, Mich., rec. by Walter M. Chase and A. L. Buzzell.

S. S. No. 405. Dole M. Klutz, Maiden, N. C., rec. by W. D. Walters and Frank H. Freericks.

S. S. No. 406. Herman Boyd King, College Springs, Iowa, rec. by W. D. Walters and F. H. Freericks.

S. S. No. 407. Ralph T. Pollock, 19 Main St., Boonville, N. Y., rec. by B. H. Bentley and Chas. M. Prescott.

S. S. No. 408. Leonard Keith Sparks, Greensburg, Kans., rec. by A. W. McKinley and D. S. Sparks.

S. S. No. 409. Wm. Starr Butterley, Plateau, Ala., rec. by E. W. Cawthon and Thos. S. Van Aller.

S. S. No. 410. Gustave John Essbach, 544 S. 12th St., Newark, N. J., rec. by W. D. Walters and R. P. Fischelis.

S. S. No. 411. Roy Abernethy, 92 Milton Ave., Ballston Spa., N. Y., rec. by R. H. Curtis and A. Menges.

S. S. No. 412. Charles Edmund O'Donnell, 11 Myrick St., Allston, Boston, Mass., rec. by C. W. Towne and J. Perley Staples.

S. S. No. 413. Abraham Sharfin, 1888 Arthur Ave., New York, N. Y., rec. by Dr. J. Feldman and L. Rabinowitz.

S. S. No. 414. Simon Yolish, 70 Windsor Ave., Hartford, Conn., rec. by G. P. Gladding and W. H. Meyer.

S. S. No. 415. Charles Sidney Starrett, Cody, Wyo., rec. by E. A. Null and Fred Schaub.

S. S. No. 416. Albert Henry Moore, 1436 Chartres St., New Orleans, La., rec. by C. J. Marquer and Edw. Wunderlut.

S. S. No. 417. Earle Smith Fischbach, 1821 8th St., Portsmouth, Ohio, rec. by H. H. Anderson and E. H. Coburn.

S. S. No. 418. Frederick Alter, 338 Marshall St., Elizabeth, N. J., rec. by L. W. Steiger and Lewis Brown.

S. S. No. 419. Russell St. Clair, New Florence, Pa., rec. by W. K. Ehrenfeld and Wm. F. Lord.

S. S. No. 420. John P. Reinhart, Jr., 89 Washington St., Hoboken, N. J., rec. by W. D. Walters and F. H. Freericks.

S. S. No. 421. Fred William Fuhrmeister, Union Ave. & Hocliamont Tr., St. Louis, Mo., rec. by W. D. Walters and F. H. Freericks.

S. S. No. 422. Frank A. Loprete, 1766 Frankford Ave., Phila., Pa., rec. by S. T. Godfrey and W. D. Walters.

S. S. No. 423. Frederick A. Ravenscroft, 54 Columbia St., Cumberland, Md., rec. by W. D. Walters and F. H. Freericks.

S. S. No. 424. Richard Frank Cadell, 152 S. 21st St., Irvington, N. J., rec. by W. D. Walters and R. P. Fischelis.

S. S. No. 425. Roccio Reggio, 183 Rockaway Ave., Brooklyn, N. Y., rec. by Arnold Lehman and H. F. Asher.

S. S. No. 426. Willard Kinno Barton, 2 Anthony Pl., Troy, N. Y., rec. by Lorenzo Strecher and Walton L. Sanderson.

S. S. No. 427. Milton L. Lieberman, 1263 S. St. Louis Ave., Chicago, Ill., rec. by W. D. Walters and R. P. Fischelis.

S. S. No. 428. Elmer Benjamin Woolford, Box 611, Morgantown, W. Va., rec. by A. B. Benny and W. D. Walters.

S. S. No. 429. Ernst Mullen Harris, 186 Pleasant St., Morgantown, W. Va., rec. by W. D. Walters and A. B. Benny.

S. S. No. 430. M. S. Bates, Washington, Ark., rec. by T. J. Bates and W. D. Walters.

S. S. No. 431. Ralph Eugene McCorkle, 303 St. Charles Ave., Atlanta, Ga., rec. by J. H. Beasley and W. D. Walters.

S. S. No. 432. Erwin M. Steiner, 10217 Ostend Ave., Cleveland, Ohio, rec. by W. D. Walters and R. P. Fischelis.

S. S. No. 433. Charles Emmott Bosserman, Greencastle, Pa., rec. by W. D. Walters and R. P. Fischelis.

S. S. No. 434. Oswald E. Obermiller, 20 Western Ave., Lake Forest, Ill., rec. by E. N. Gathercoal and A. H. Clark.

S. S. No. 435. Ernest Nichols Denson, Wheaton, Ill., rec. by E. N. Gathercoal and W. B. Day.

S. S. No. 436. Rudolph Jacob Klaff, 1851 W. Roosevelt Rd., Chicago, Ill., rec. by E. N. Gathercoal and W. B. Day.

S. S. No. 437. Charles M. Vitullo, 752 DeKoven St., Chicago, Ill., rec. by E. N. Gathercoal and W. B. Day.

S. S. No. 438. Harold V. Cleveland, 9901 Ewing Ave., Chicago, Ill., rec. by W. B. Day and E. N. Gathercoal.

S. S. No. 439. Adam J. Hoppe, 3359 N. Halsted St., Chicago, Ill., rec. by E. N. Gathercoal and A. H. Clark.

S. S. No. 440. Bernard Albert O'Reilly, 58 W. Elm St., Chicago, Ill., rec. by E. N. Gathercoal and A. H. Clark.

S. S. No. 441. Myron Van Voke, Rockford, Ohio, rec. by Felix Czusz and Chas. C. Gray.

S. S. No. 442. Kazimir Cabanski, 4258 W. Division St., Chicago, Ill., rec. by W. B. Day and E. N. Gathercoal.

J. W. ENGLAND, *Secretary.*
415 N. 33RD STREET.

## A. PH. A. COUNCIL LETTER NO. 22.

PHILADELPHIA, PA., February 11, 1920.

To the Members of the Council:

*Motions No. 24 (Election of Active Members; applications Nos. 128 to 159 inclusive) and No. 25 (Election of Soldier and Sailor Members; applications Nos. 348 to 363 inclusive)*, have each received a majority of affirmative votes.

*Motion No. 28 (Election of Active Members).* You are requested to vote on the following applications for active membership:

No. 173. Walter Lee Moose, Y. M. C. A., Central, Baltimore, Md., rec. by James A. Black and O. W. Muehlhause.

No. 174. Adolph J. Hoenny, 3700 W. Grand Ave., St. Louis, Mo., rec. by Joseph B. Welsh and S. O. Barnstead.

No. 175. William L. Shank, M.D., 3rd & Cedar Sts., St. Louis, Mo., rec. by Joseph B. Welsh and S. O. Barnstead.

No. 176. Henry Mank, 3454 a Crittenden St., St. Louis, Mo., rec. by Joseph B. Welsh and S. O. Barnstead.

No. 177. Edward J. Andrea, 7207 Dale Ave., St. Louis, Mo., rec. by Joseph B. Welsh and S. O. Barnstead.

No. 178. W. Thos. Senseman, Jr., 154 Sylvan Terrace, Harrisburg, Pa., rec. by Charles H. LaWall and E. G. Eberle.

No. 179. Charles F. Lanwermeyer, 2846 Texas Ave., St. Louis, Mo., rec. by Joseph B. Welsh and S. O. Barnstead.

No. 180. John Hardie Wyllie, 3943 McPherson Ave., St. Louis, Mo., rec. by Joseph B. Welsh and S. O. Barnstead.

No. 181. W. F. Seawell, care Planters Hotel, St. Louis, Mo., rec. by Joseph B. Welsh and S. O. Barnstead.

No. 182. Ferdinand Dyonize Stoll, 311 W. Market St., Louisville, Ky., rec. by O. C. Dilly and Arthur Lee Suter.

No. 183. Gustaf Adolph Johnson, 1300 3rd Ave., Spring Lake, N. J., rec. by D. H. Hills and Edgar R. Sparks.

No. 184. Bryon Broough Kerr, 447 E. Main St., Murfreesboro, Tenn., rec. by Edw. V. Sheely and Wm. B. Day.

No. 185. P. Van der Wielen, Kloveniersburg wal 84, Amsterdam, Netherlands, rec. by Wm. B. Day and E. N. Gathercoal.

No. 186. Henry J. Eber, 385 Central Ave., Newark, N. J., rec. by George S. Campbell and Wm. B. Day.

No. 187. Daniel Joseph O'Brien, Medical Storehouse, Naval Operating Base, Norfolk, Va., rec. by Charles C. Thome and J. W. England.

*Motion No. 29* (*Election of Soldier and Sailor Members*). You are requested to vote on the following applications for soldier and sailor membership:

S. S. No. 443. Stephen B. Nagy, 63 Waldorf Ave., Bridgeport, Conn., rec. by Wm. B. Day and Frank H. Freericks.

S. S. No. 444. William Scott Adams, 1210 Penn Ave., N. W., Washington, D. C., rec. by C. F. Fischer and H. H. Schaefer.

S. S. No. 445. Oliver W. Guilbert, Waseco, Minn., rec. by G. Bachman and E. L. Newcomb.

S. S. No. 446. Edwin William Schultz, 6156 Greenwood Ave., Chicago, Ill., rec. by E. N. Gathercoal and W. B. Day.

S. S. No. 447. Ernest Lowell Langley, 33 Waverly St., Roxbury, Mass., rec. by T. J. Bradley and E. H. LaPierre.

S. S. No. 448. Edward Nathaniel Wiggin, P. O. Box 197, Anderson, S. C., rec. by J. C. Wheatcroft and Wm. B. Day.

S. S. No. 449. Richard L. Burnett, Columbia, S. C., rec. by J. C. Wheatcroft and Wm. B. Day.

S. S. No. 450. A. Wayne Kunkel, 3210 Arthington St., Chicago, Ill., rec. by E. N. Gathercoal and W. B. Day.

S. S. No. 451. Clifford E. McKee, 223 Liberty St., Morris, Ill., rec. by E. N. Gathercoal and W. B. Day.

S. S. No. 452. Byron H. Beatty, 119 S. Franklin St., Kirksville, Mo., rec. by W. D. Walters and R. P. Fischelis.

S. S. No. 453. Macy Stewart Hight, 1278 W. Fort St., Detroit, Mich., rec. by W. D. Walters and R. P. Fischelis.

S. S. No. 454. Stanley A. Kuzniak, 133 S. 15th St., S. S., Pittsburgh, Pa., rec. by A. E. Baier and J. A. Koch.

S. S. No. 455. Richard Earl McAbee, 517 Lincoln Ave., Bellevue, Pa., rec. by A. E. Baier and J. A. Koch.

S. S. No. 456. Dan L. Dunkle, 631 First St., Verona, Pa., rec. by A. E. Baier and J. A. Koch.

S. S. No. 457. John M. Hanna, 3054 Texas Ave., Dormont, Pa., rec. by A. E. Baier and J. A. Koch.

S. S. No. 458. George Louis Kiefer, 1 Lander St., Pittsburgh, Pa., rec. by A. E. Baier and J. A. Koch.

S. S. No. 459. Justin Webber, 2450 Wylie Ave., Pittsburgh, Pa., rec. by A. E. Baier and J. A. Koch.

S. S. No. 460. T. Ross Kepple, 127 Chopin St., Johnstown, Pa., rec. by A. E. Baier and J. A. Koch.

S. S. No. 461. Ernest F. Buckley, Rayville, La., rec. by R. V. Aunthong and W. A. McCoy.

S. S. No. 462. Joseph George Nixon, care Own Drug Store, Florence, Ala., rec. by C. G. Mansfield and C. Beasley.

S. S. No. 463. Elmer Baxter Williams, Hailey, Idaho, rec. by B. C. Allen and W. W. Aukema.

S. S. No. 464. Harry Arthur Cohen, 178 Hazle St., Wilkes-Barre, Pa., rec. by Wm. P. Gaskill and Fred J. Crandall.

S. S. No. 465. Addison Duane Hobart, 500 Oak St., Toledo, Ohio, rec. by W. D. Walters and R. P. Fischelis.

S. S. No. 466. Benjamin Green, 497 East 120th St., Cleveland, Ohio, rec. by Max Klein and W. D. Walters.

S. S. No. 467. Cleve Carey Pully, 301 So. Gay St., Knoxville, Tenn., rec. by W. D. Walters and R. P. Fischelis.

S. S. No. 468. Albert Lerner, 5124 Race St., Phila., Pa., rec. by C. H. LaWall and E. Fullerton Cook.

S. S. No. 469. Cloyd Orris Beasley, 460 N. Court St., Florence, Ala., rec. by J. G. Nixon and O. G. Mansfield.

S. S. No. 470. Ferdinand W. Hinkle, 238 Washington St., Atlanta, Ga., rec. by J. E. Kilgus and J. W. Gayle.

S. S. No. 471. Perry William Rolfe, Temple Hill, Ill., rec. by W. D. Walters and R. P. Fischelis.

S. S. No. 472. Frank Albert Nelson, 3312 Cullom Ave., Chicago, Ill., rec. by W. D. Walters and R. P. Fischelis.

S. S. No. 473. Clarence Albert Rigby, 331 W. Third St., East Liverpool, Ohio, rec. by H. O. Wunsch and W. D. Walters.

S. S. No. 474. Cabell Barber Barnett, Kilgore, Texas, rec. by C. W. Terry and R. P. Fischelis.

S. S. No. 475. Thomas Christopher Kurtz, 6103 Alder St., Pittsburgh, Pa., rec. by R. P. Fischelis and W. D. Walters.

S. S. No. 476. Edward Odin Turner, 1201 Baltic Ave., Atlantic City, N. J., rec. by W. D. Walters and R. P. Fischelis.

S. S. No. 477. Charles Albert Tuck, 439 Washington St., Newark, N. J., rec. by M. W. Katz and Dr. Egge.

S. S. No. 478. David Charles Moore, 135 High St., Santa Cruz, Cal., rec. by W. D. Walters and R. P. Fischelis.

S. S. No. 479. Earl Young, Box 952, Great Falls, Mont., rec. by W. D. Walters and R. P. Fischelis.

S. S. No. 480. William Montague Poindexter, Marshall, Okla., rec. by Geo. L. Dougherty and W. D. Walters.

S. S. No. 481. Charles R. Coston, 1012 N. Marsalis St., Dallas, Texas, rec. by W. D. Walters and R. P. Fischelis.

S. S. No. 482. John Bellem Curran, 1300 Penn Ave., Boulder, Colo., rec. by J. W. Sturmer and W. D. Walters.

S. S. No. 483. Joseph Goldberg, 176th St. & South Boul., Bronx, New York, N. Y., rec. by W. D. Walters and R. P. Fischelis.

S. S. No. 484. Arlon Rowen, Gunnison, Utah, rec. by W. D. Walters and R. P. Fischelis.

S. S. No. 485. Edward Frederick Dufresne, 122 Magill St., Pawtucket, R. I., rec. by J. G. Barnard and W. D. Walters.

S. S. No. 486. Louis Andrew Gorham, 127 N. Dearborn St., Chicago, Ill., rec. by W. B. Day and E. N. Gathercoal.

S. S. No. 487. Emanuel Arnold Novak, 1508 E. 57th St., Chicago, Ill., rec. by W. D. Walters and R. P. Fischelis.

S. S. No. 488. Fred L. Powell, Whiteville, N. C., rec. by G. R. McNeill and W. D. Walters.

S. S. No. 489. Henry Cougle George, 1514 Wyandotte Ave., Lakewood, Ohio, rec. by G. Wallace Grosse and Frank C. Kauffman.

S. S. No. 490. Evan Ragland Allen, 2007 Beverly St., Richmond, Va., rec. by W. F. Rudd and Samuel Weinstein.

S. S. No. 491. Mont. E. Huff, 726 West New York, Indianapolis, Ind., rec. by W. D. Walters and R. P. Fischelis.

S. S. No. 492. John Harry Lindahl, 2927 Burling St., Chicago, Ill., rec. by J. H. Rieminschuch and J. E. Woods.

S. S. No. 493. Frederick William Waterman, 1021 W. 77th St., Chicago, Ill., rec. by Wm. B. Day and E. N. Gathercoal.

S. S. No. 494. Norman Kiedaisch, 1028 Main St., Keokuk, Iowa, rec. by W. D. Walters and Wm. B. Day.

S. S. No. 495. Louis E. Stoebig, 5601 Irving Park Blvd., Chicago, Ill., rec. by W. B. Day and E. N. Gathercoal.

S. S. No. 496. George Searles Spilver, 105 S. Menard Ave., Chicago, Ill., rec. by E. N. Gathercoal and W. B. Day.

S. S. No. 497. Louis Sheinfine, 207 E. 33rd St., New York, N. Y., rec. by Leo Bigotti and Joseph Rocco.

S. S. No. 498. Charles John Schultz, 74 Illinois St., Chicago Heights, Ill., rec. by W. D. Walters and R. P. Fischelis.

S. S. No. 499. Henry L. Bishop, 1528 W. Madison St., Chicago, Ill., rec. by W. D. Walters and R. P. Fischelis.

S. S. No. 500. Maurice Siskel, 1048 W. Wood St., Decatur, Ill., rec. by E. N. Gathercoal and W. B. Day.

S. S. No. 501. John McDonald Hart, 400 W. 63rd St., Chicago, Ill., rec. by Wm. B. Day and E. N. Gathercoal.

S. S. No. 502. Floyde Wiley Bryant, 2024 S. 6th Ave., Maywood, Ill., rec. by E. N. Gathercoal and W. B. Day.

S. S. No. 503. J. H. Druea, 231 King St., Charleston, S. C., rec. by J. C. Wheatcroft and Wm. B. Day.

S. S. No. 504. T. C. Hunley, 286 King St., Charleston, S. C., rec. by J. C. Wheatcroft and Wm. B. Day.

S. S. No. 505. E. Henry Keutmann, 26 Bee St., Charleston, S. C., rec. by J. C. Wheatcroft and Wm. B. Day.

S. S. No. 506. T. C. Duffy, 286 King St., Charleston, S. C., rec. by J. C. Wheatcroft and Wm. B. Day.

S. S. No. 507. J. Herman Thee, care Freyschmidts Drug Store, Charleston, S. C., rec. by J. C. Wheatcroft and Wm. B. Day.

S. S. No. 508. Joseph Paul Wilkinson, care El Bedeura Apts., Omaha, Nebr., rec. by W. D. Walters and R. P. Fischelis.

J. W. ENGLAND, *Secretary.*

415 N. 33RD ST.

## A. PH. A. COUNCIL LETTER NO. 23.

PHILADELPHIA, PA., February 16, 1920.

To the Members of the Council:

The Executive Committee of the Council met at St. Louis, Planters Hotel, on January 31, 1920, and February 1, 1920, and submit the following report:

### FIRST SESSION.

The meeting was called to order by Chairman L. C. Hopp on January 31, 1920 at 10.35 A.M.

Present: Messrs. L. C. Hopp, J. H. Beal, G. M. Beringer, L. E. Sayre, Dr. H. M. Whelpley, E. G. Eberle and W. B. Day; visitors, C. H. LaWall and F. W. Meissner.

It was announced that Secretary J. W. England would arrive later and in his absence W. B. Day was named as temporary secretary.

Editor E. G. Eberle submitted a comprehensive statement concerning THIS JOURNAL and the suggestions that have been made for its further development, reporting that he had adopted the suggestions he believed to be feasible, such as the condensing of papers and reports, editorials by various writers, the publication of a bibliography of pharmaceutical papers, and the publication of more personal notes.

L. E. Sayre moved, seconded by H. M. Whelpley, that the Executive Committee express its approval of the editor's action, which motion was carried unanimously.

Attention was called to the instructions given the Executive Committee anent the recommendation of President LaWall (1919) to consider the presidential addresses for the past ten years, with directions to take such steps as will result in the carrying out of such recommendations as have not been made effective. This shall not apply, however, to such recommendations as are no longer pertinent or of present importance and value.

General Secretary W. B. Day presented an abstract of these recommendations. They

numbered 169. These were considered seriatim. Many others have been adopted, some have been duplicated, and others are of no present importance and value.

Recommendation of President Oldberg (1909): "The President of the Association should not be required to present at the annual meeting an address embodying general scientific facts and events of the year, but should have the alternative of discussing questions bearing on the affairs of the Association."

*Recommendation No. 1.*

The Executive Committee recommends to the Council:

That the President shall not be limited in the selection of subjects for his annual address to scientific facts and events of the year, but shall be given the alternative of discussing questions bearing on the affairs of the Association generally, and that Chapter II, Article IX of the by-laws of the Association be so amended.

Recommendation of President Rusby (1910): "That the retiring presidents of the Association shall become members of the Council."

This recommendation has been repeatedly suggested; the Executive Committee finds itself in a somewhat peculiar position regarding this recommendation inasmuch as the membership of the Executive Committee itself consists almost entirely (all but one) of ex-presidents.

*Recommendation No. 2.*

The Executive Committee believes that this recommendation should receive serious consideration and recommends that the question of making the ex-presidents of the Association ex-officio members of the Council, be referred to the Association, and if agreed upon, that the by-laws be amended accordingly.

Recommendation of President Eberle (1911): "Improvement of Association work —especially state associations, programs, resolutions, etc., suggesting topics for state association programs."

*Recommendation No. 3.*

The Executive Committee recommends to the Council:

That the Executive Committee outline each year special problems for the State Associations and the Local Branches to discuss and take appropriate action; members of the Executive Committee to submit topics, which will be submitted by the Secretary of the Committee to its members for selection by vote. The selected list is then to be sent to the President and Secretary of each State Association and Local Branch, these officers to be asked to report on the action taken in relation thereto.

Various recommendations of several ex-presidents concerning changes in the nomination and election of officers were discussed.

*Recommendation No. 4.*

The Executive Committee recommends to the Council:

That inasmuch as there is now a special Committee on Nominations appointed by the Association, that there be referred to this committee all recommendations relative to the matter of nominating and electing officers.

Adjourned to meet at 1.30 P.M. on January 31, 1920.

SECOND SESSION.

The meeting was called to order January 31, 1920, at 1.30 P.M., Chairman L. C. Hopp presiding.

Present: Messrs. L. C. Hopp, J. H. Beal, G. M. Beringer, W. B. Day, E. G. Eberle, L. E. Sayre, H. M. Whelpley and J. W. England.

The minutes of the previous meeting were read and approved.

Recommendation of President Beringer (1914) anent an endowment for pharmaceutical research, was considered.

On motion of J. H. Beal, seconded by G. M. Beringer, it was agreed that a committee be appointed to consider the advisability of establishing an American Pharmaceutical Research Endowment, by inviting the various national organizations interested in pharmacy and the drug and chemical trades to contribute to this fund, and to be represented in its management by a Board of Trustees consisting of one trustee from each of the contributing organizations.

The Committee named was Messrs. J. H. Beal, G. M. Beringer and L. E. Sayre.

President L. E. Sayre stated that he would inquire of the National Research Council as to how far it could coöperate in the prosecution of pharmaceutical research.

The matter of referendum vote and other questions, growing out of the recommendation of former President LaWall that the annual dues be increased from $5.00 to $7.50, which, by resolutions of the Association and Council were referred to the Executive Com-

mittee, were considered from every angle and phase. A number of communications on the subject were read.

As the result of its deliberations, the Executive Committee recommends to the Council:

*Recommendation No. 5.*

That the annual dues be increased from $5.00 to $7.50 and that the by-laws of the Association be amended accordingly.

The Committee is of the opinion that this advance should be made because the purchasing power of the dollar is approximately only one-half of its pre-war status and no organization can continue to do its full work on the basis of the pre-war scale of prices; and the advance proposed is deemed preferable to curtailing any of the service-features of the Association.

*Recommendation No. 6.*

The Executive Committee recommends to the Council:

That beginning with 1921 a rebate or share of the annual dues be made each year to each Local Branch of one dollar per dues-paid member per year, with the maximum of $200 for any one branch, and that the Secretary of each Local Branch shall file with the Treasurer of the Association before December first of each year a statement of the amount of such rebate due, with a list of the membership of the Local Branch, also, that beginning with 1921, the Association shall discontinue the custom of granting a commission of one dollar for each new member secured by Local Branches.

*Recommendation No. 7.*

The subject of discontinuing the issuance of certificates of membership was discussed and the Executive Committee recommends to the Council:

That the issuance of certificates of membership, except to life members, be discontinued and that the by-laws be amended accordingly.

Adjourned to meet at 10 A.M. on February 1, 1920.

THIRD SESSION.

The meeting was called to order by President L. E. Sayre, who acted as Chairman, on February 1, 1920 at 10 A.M.

Present: Messrs. L. E. Sayre, W. B. Day, J. H. Beal, E. G. Eberle, G. M. Beringer, Dr. H. M. Whelpley and J. W. England.

The minutes of the previous meeting were read and approved.

Mr. G. M. Beringer, on behalf of the Committee on American Pharmaceutical Research Endowment, submitted the following report, which was adopted as read:

Executive Committee of the Council:

While much has already been accomplished toward increasing our knowledge of remedial agents, the possibilities of scientific research in pharmacy have scarcely been touched. Innumerable drug and chemical substances used as remedial agents await investigation. Our knowledge regarding the sources, constituents, composition and pharmacological actions of a very few medicinal substances is complete and the advances in medicine, chemistry and the allied sciences are continuously opening up to pharmacy new subjects and a vast domain of research that is distinct from the specialized fields preoccupied by medical and chemical research foundations.

The systematic investigation of the processes of pharmacy; the composition and constituents of drugs and chemicals, their extraction, estimation, standardization and therapeutic applications, are some of the avenues open to pure pharmaceutical research in collaboration with collateral research.

To promulgate, systematize and coördinate scientific research, in the special fields open to pharmacy, so that the study and investigation may be encouraged in the most efficient manner, and the greatest volume of scientific information may be collated and applied with the greatest benefit to the welfare and progress of the world, the establishment of the American Pharmaceutical Research Endowment is urged.

The broad field of investigation that it is contemplated to cover by this Research Endowment will necessarily require proportionately large sums of money for its establishment and permanent maintenance. All national pharmaceutical, drug and chemical organizations should be invited to participate in the Endowment.

It is proposed that the control and management of the Endowment shall be vested in a Board of Trustees to be composed of one representative from each of the national organizations joining in the incorporation of the Endowment. Contributions, donations and bequests to this Endowment are likewise to be solicited from corporations, firms and individuals who shall be allowed also to suggest topics for investigation, or to make special contributions to establish professorial chairs, fellowships or donations to

be directed toward any particular subject of investigation.

The Board of Trustees should have the power to invest and reinvest the moneys and securities of the endowment; to frame all rules and regulations for the protection and application of the funds; to elect a director of research and such assistants as may be needed; to organize and maintain a corps of special students, investigators, clerks and helpers as may be required; and to acquire, purchase, build or rent such offices, buildings and equipment as they may deem necessary to perform the work and duties appertaining to this endowment.

J. H. BEAL, *Chairman*,
G. M. BERINGER,
L. E. SAYRE,
Committee on American Pharmaceutical Research Endowment.

*Recommendation No. 8.*

The Executive Committee recommends to the Council:

That the suggestions contained in the report of the Committee on American Pharmaceutical Research Endowment be approved by the Council.

On motion of J. H. Beal, seconded by G. M. Beringer, Editor E. G. Eberle was authorized to release immediately for publication in the pharmaceutical press, such portions of the business of the Executive Committee meetings as may seem, in his judgment, advisable and proper; and the Secretary of the Executive Committee was directed to submit the report in full to the Council.

Motion No. 18 of Council Letter No. 14, referred by the Council to the Executive Committee, was considered. The motion was as follows "That the suggestion of a textbook on commercial pharmacy made by Prof. E. Fullerton Cook, in his annual address as Chairman of Section on Commercial Interests, for 1918–19, be referred to the Executive Committee at its coming meeting, the Committee to report to the Council."

The consensus of opinion of the Executive Committee is that the publication of the textbook proposed should be left to individual initiative and that it is not the province of the Association to publish such a work.

*Recommendation No. 9.*

J. H. Beal suggested that there be established in THIS JOURNAL for one year, a Department of Commercial Pharmacy, the said department to be a symposium of articles on commercial pharmacy, past and present, to be edited by a special committee; and that Prof. E. Fullerton Cook be requested to act as chairman of the committee. The suggestion was, on motion of J. W. England, seconded by W. B. Day, adopted.

A communication was read from Dr. H. H. Rusby upon the subject of continued affiliation with the Joint Committee on Horticultural Nomenclature.

On motion of J. H. Beal, seconded by E. G. Eberle, the communication was referred to the next annual meeting of Association.

The subject of the publication of the Treasurer's annual report in full in the JOURNAL was discussed.

*Recommendation No. 10.*

The Executive Committee recommends to the Council:

That the Treasurer continue to submit an annual financial report in full detail to the Association, and that this report be published in the Year Book but that a summary only of the report be published in the JOURNAL.

On motion of J. H. Beal, seconded by W. B. Day, Dr. H. M. Whelpley was directed to convey to ex-president J. G. Godding the sympathy of the members of the Executive Committee by reason of his recent accident and illness and their best wishes for his speedy recovery to health.

A vote of thanks was directed to be sent to the members of the St. Louis Branch for their gracious hospitality to the members of the Executive Committee, to the Planters Hotel for its courtesies, and to the press of St. Louis for the publicity given the American Pharmaceutical Association.

Adjourned to meet at the call of the Chair.

J. W. ENGLAND,
*Secretary of Executive Committee.*
415 N. 33RD STREET.

# AMERICAN PHARMACEUTICAL ASSOCIATION

Organized: Philadelphia, 1852. Incorporated: Washington, D. C., 1888

## OFFICIAL ROSTER FOR 1919-1920

### GENERAL OFFICERS.

*President*—LUCIUS E. SAYRE.....Lawrence, Kans.
*Honorary President*—ALVISO B. STEVENS.....Escondido, Cal.
*First Vice-President*—THEODORE J. BRADLEY.....70 St. Botolph St., Boston, Mass.
*Second Vice-President*—HARRY WHITEHOUSE.....Johnson City, Tenn.
*Third Vice-President*—E. FULLERTON COOK.....145 N. 10th St., Philadelphia, Pa.
*General Secretary*—WILLIAM B. DAY.....701 S. Wood St., Chicago, Ill.
*Treasurer*—HENRY M. WHELPLEY.....2342 Albion Place, St. Louis, Mo.
*Reporter on the Progress of Pharmacy*—H. V. ARNY.....115 W. 68th St., New York, N. Y.
*Editor of the* JOURNAL—E. G. EBERLE.....253 Bourse Building, Philadelphia, Pa.
*Local Secretary*—S. L. HILTON.....1033 22nd St., N. W., Washington, D. C.

### OFFICERS-ELECT FOR 1920-1921.

*President*—CHARLES HERBERT PACKARD.....7 Central Square, East Boston, Mass.
*First Vice-President*—E. FULLERTON COOK.....145 N. 10th St., Philadelphia, Pa.
*Second Vice-President*—CHARLES E. CASPARI.....2108 Locust St., St. Louis, Mo.
*Third Vice-President*—W. P. PORTERFIELD.....61 Broadway, Fargo, N. D.
*Members of the Council*—HARRY B. MASON.....P. O. Box 484, Detroit, Mich.
L. E. SAYRE.....Lawrence, Kans.
F. J. WULLING.....U. of Minn., Minneapolis, Minn.

### OFFICERS OF THE HOUSE OF DELEGATES.

*Chairman*—S. L. HILTON.....1033 22nd St., N. W., Washington, D. C.
*First Vice-Chairman*—E. F. KELLY.....Lombard and Green Sts., Baltimore, Md.
*Second Vice-Chairman*—E. L. NEWCOMB.....719 6th Ave., S. E., Minneapolis, Minn.
*Recording Secretary*—JEANNOT HOSTMANN.....115 W. 68th St., New York, N. Y.

### OFFICERS OF THE COUNCIL.

*Chairman*—LEWIS C. HOPP.....1104 Euclid Ave., Cleveland, Ohio.
*Vice-Chairman*—CHARLES H. LAWALL.....39 So. 10th St., Philadelphia, Pa.
*Secretary*—J. W. ENGLAND.....415 No. 33rd St., Philadelphia, Pa.

### EXECUTIVE COMMITTEE OF THE COUNCIL.

*Chairman*—LEWIS C. HOPP.....1104 Euclid Ave., Cleveland, Ohio.
*Secretary*—J. W. ENGLAND.....415 No. 33rd St., Philadelphia, Pa.
Members—J. H. BEAL.....801 W. Nevada St., Urbana, Ill.
G. M. BERINGER.....501 Federal St., Camden, N. J.
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For members, committees and other officers of the Council see pp. 1097-1101, December JOURNAL A. PH. A., 1919.

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# EDITORIAL NOTES

**Editor:** E. G. EBERLE, Bourse Building, Philadelphia, Pa.
**Committee on Publication:** J. W. ENGLAND, *Chairman;* G. M. BERINGER, CASWELL A. MAYO, H. B. MASON, E. L. NEWCOMB, and the Editor-in-Chief of the JOURNAL, General Secretary, Treasurer and Reporter on the Progress of Pharmacy, *ex-officio.*

## COMMUNITY OF INTERESTS IN CHEMICAL MANUFACTURE.

The British Mission referred to editorially reported on the coöperative working of the German chemical industry whereby a community of interests is served. The system particularly referred to is the *Interessen Gemeinschaft* in which eight well-known chemical firms participated, among them Bayer, Hoechst, Kalle, Anilin and Soda-Fabrik, and others. The establishment was for the purpose of price maintenance and developed into an organization of coöperative manufacture, the participants taking up the activities best suited for their respective investments and for the protection of all concerned. Without going into extended detail the plan, in a general way, will be recognized as one whereby efficiency and conservation, utilization and production are brought up to thoroughness.

## A "SEASICK" HOUSE AT LONGPORT, N. J.

Many members of the Association know that much of the work on the U. S. Pharmacopoeia was done at Longport, the summer home of the late Professor Joseph P. Remington. During the early part of February a seastorm visited the coast of New Jersey, and that of Longport was damaged. Among the buildings turned topsy-turvy was the one which gives visitors an experience with mal de mer. The slanting floors of the house are responsible, and so effective, it is said, that even visiting mariners fall victims to the sensations that a storm at sea evokes in an amateur on a pitching ship. Chairman LaWall also has a home in Longport, and it may be questioned whether a U. S. P. preparation has been improvised to meet the exigency of the case.

## SPECIAL STRAINS OF MEDICINAL PLANTS BY SELECTION.

W. G. Smith, B.Sc., Ph.D., delivered a lecture on the above subject before a recent evening meeting of the Pharmaceutical Society of Great Britain. Dr. Smith laid down his text by saying, "A comparison of plant-breeding of agricultural plants and of medicinal plants suggests that the former has developed much more than the latter." He concludes that what has been done for the improvement of agricultural plants may be done for medicinal plants. The principles and methods employed in agricultural work were cited, that the standard species (Linnaean, etc.) is not a uniform unit, and when any species is studied intensively there is revealed a great range of variations of the species. This is recognized in medicinal plants, such as digitalis, belladonna, etc., from different sources.

In continuing, cultivation and development were spoken of, also hybridization and improvement; as an example the higher yield of sugar, from the sugar beet, by selection, was referred to. For his illustrations the speaker drew largely on the mints, and concluded with extended notes on American drug culture of belladonna and stramonium.

Dr. Smith remarked that Hungarian oil of peppermint was an illustration of the higher yield in countries where intelligent cultivation is carried on and the growers have experience in the selection of suitable races. Continuing he said that organized effort to secure improvement began in 1904, and has been greatly developed. One of the pioneers was Curé Joseph Agnelli, who has raised the *Agnelliana* varieties of *Mentha crispa* and *Mentha piperita*. The high excellence attained by cultivation and selection is indicated by the following comparative statistics. Hungarian oil of *Mentha crispa* yielded from 62 to 71 percent of lævo-carvone, while American yielded 35 to 56 percent; German, 35 to 56 percent; and Russian 5 to 10 percent. Hungarian oil of *Mentha piperita* yielded 43 to 56 percent of free menthol and 35 to 65 percent of total menthol, while American oil of *Mentha piperita* yielded 40 to 45 percent free menthol and 60 percent menthol.

Camus has shown (*International Bulletin*, 1912, page 160) that *Mentha piperita* is really

a hybrid between *Mentha viridis* and *Mentha aquatica*. This explains its great variations in pubescence, color, etc., some individuals tending towards the characters of one parent plant and others to the other. The variety cultivated in France, and becoming more cultivated, is known as "Red Mint," and can grow on certain soils where the true peppermint does not grow. The "Red Mint" can be cultivated for four or five years in the same field, but the true *Mentha piperita* can be cultivated in the same field for two years only. "Red Mint" gives a higher yield of oil, but of inferior quality. Such a tendency to variation opens the way to improvement.—Abstracted from the *Journal and Pharmacist* of February 7, 1920, p. 116, *et seq.*

## MEXICAN DRUGS AND RESIN-YIELDING PLANTS.

According to Willys A. Myers, American vice-consul at Vera Cruz, there are numerous medicinal plants in Mexico that are little known in the United States and up to this time may never have been exported. He refers to an official list of 233 distinct species of medicinal plants. The names and very brief descriptions of a few follow:

*Tabaquillo Oloroso* (*Hedeoma piperita*).—Contains an oil with about 50 percent of menthol.

*Tronadora* (*Tecoma mollis*).—Said to be a cure for diabetes. The leaves are used in making a decoction.

*Axocopaque* (*Gaultheria acuminata*).—Grows in the state of Pueblo, Mexico, and in Hidalgo. Contains an essential oil like that of wintergreen.

*El Cuapinole* (*Hymenaca courbarii*).—Grown in the warmer regions of Mexico. Contains a resin suitable for making varnishes.

*Le Hierba de la Cucaracha.*—Used as an insect destroyer.

*La Raiz del Oso* (Bear root).—Similar to valerian in effect.

*Los Cuajiotes* (Green and Chinese) (*Bursera aptera* and *Bursera trijura*).—Plant contains a large amount of juice, which when solidified is used as a porcelain cement.

## MELEZITOSE.

Announcement relative to melezitose has recently been made, following a long period of investigation by Professor John Davidson, F.L.S.; F.B.S.E., botanist in charge at the University of British Columbia at Vancouver. Professor Davidson was assisted by James Teit of Spence's Bridge, B. C., who has spent the major part of his life in the interior of the province and who has an intimate knowledge of the country. The sugar is intensely sweet and the areas in which this sugar is found take in the Thompson River Valley, west of the mouth of the Nicola River, the district near the junction of the Fraser and Thompson Rivers at Lytton, and a small part of the Fraser Valley, above Lillooett. In the Kamloops district, the Nicola and Similkameen valleys and the eastern part of the state of Washington it is also reported to occur. The analyses made by Dr. F. T. Shutt, Dominion scientist, Ottawa, Canada, and by the Bureau of Chemistry in Washington, show a high degree of constancy in the composition of the fir sugar.

## MEMORIAL TO LORD LISTER IN SCOTLAND.

It is proposed to perpetuate the memory of Lord Lister by establishing in Edinburgh an institution where the scientific investigation of disease can be undertaken. A suitable site has been secured near the Edinburgh Royal Infirmary and the Medical School of the University. The committee in charge of the memorial is presided over by the Chancellor of the University, Mr. Balfour, and the Honorable Vice-Presidents are the Duke of Atholl, Lords Roseberry, Beatty, Glenconner, Leverhulme, and Sir J. Lorne McLeod.

## REWARDS FOR BRITISH MEDICAL RESEARCH.

A Joint Committee of the British Medical Association and the British Science Guild has recommended that rewards should be given by the State for useful medical discoveries. Pensions of £500 to £1000 a year are suggested as the form the awards should take. It is considered that awards are necessary to encourage medical investigation and to discharge a moral obligation incurred by the public for its use of private effort. There are at present hundreds of medical men and others in the country who possess all the qualities and opportunity for private independent research, who do not attempt it because such work does not pay even when brilliantly successful. These men should be induced to devote their time to research by the offer of reward in the event of success. The proposals, which will be submitted to the House of Commons early in the new session, are (1) that Parliament should resuscitate the

precedent of Jenner by paying compensation, when due, for losses incurred in achieving medical discoveries; (2) that Parliament should provide an annual sum of not less than £20,000 for life pensions to be given as rewards to such of his Majesty's subjects as have made worthy medical discoveries, such pensions amounting to between £500 and £1000 a year. Such pensions would be sufficient, because men of science seek only such independence as will enable them to employ their talents in the manner they think will result in greater service.—From *Chemist & Druggist.*

## WOULD UNIONIZE DOCTORS.

Declaration that the "time has come when the medical profession of the United States is forced to unionize to protect its own interests and those of the public," was made in an address in Los Angeles, February 19, by Dr. Charles A. L. Reed, of Cincinnati, formerly president of the American Medical Association and of the Pan-American Medical Congress.

"The movement, which is already far advanced in Europe, is well under way in many parts of the United States," declared Doctor Reed.

## EXTENDED USE OF DISTILLED WATER.

The *Scientific American* says that distilled water is coming into such wide use, as for example, in the maintenance of electric batteries for automobiles and other purposes, that the time seems ripe for emphasizing the desirability of having some standard for distilled water which should be prepared and sold under conditions that guarantee its quality to the purchaser. Too few of those who dispense distilled water are familiar with the characteristics which the fluid should have and with the considerable number of impurities which should be eliminated. These include mineral matter, oil, ammonia, carbon dioxide, fixed alkalies, nitrites, chlorine, copper, and iron. Apparatus for preparing distilled water should never be forced and it requires careful flushing and washing if it is to continue to deliver satisfactory water. Even the selection of a raw water supply for distillation is important and the containers in which it is kept and sold must be carefully selected. For scientific work the question of a container is frequently a serious matter, since glass is somewhat soluble in distilled water, at least to the extent that some of the ingredients dissolve out in amount sufficient to interfere with exact determinations.

## FORMULA FOR NON-ALCOHOLIC VANILLA FLAVOR.

By M. Ebbert Webber*

| | |
|---|---|
| Vanillin | 50 grains |
| Coumarin | 3 grains |
| Glycerin | 6 fluidounces |
| Syrup | 6 fluidounces |
| Water | 4 fluidounces |
| Ether | 4 fluidrachms |
| Color | sufficient |

Dissolve the vanillin and coumarin in the ether and add to glycerin, syrup and water previously mixed. Beat until the ether is entirely evaporated then add the color.

## PREPARATION OF STERILIZED CAMPHORATED OIL FOR INJECTION.

The 1:10 solution of camphor in olive oil, which is widely prescribed in French practice for administration by hypodermic injection, may be easily and effectively prepared as follows: Pure olive oil preserved from contact with the air by means of a layer of alcohol (95 percent) is heated in a long-neck flask in a boiling water-bath until all the alcohol is evaporated. The oil will be perfectly sterilized by this procedure. The flask is then removed from the source of heat, and when the temperature of the oil has fallen to about 40° C. the camphor is added and dissolved. If necessary, the camphor may first be dissolved in a small quantity of ether. The author has prepared more than 5,000 camphor injections by this method, and has never had a case showing any ill effects following the administration.—E. Cabannes (*Bull. Soc. Pharm. de Bordeaux*, 57, 158, 1919).

## PROBLEMS OF THE BUREAU OF CHEMISTRY DISCUSSED BY DR. CARL ALSBERG.

Recently Dr. Carl Alsberg, Chief of the Bureau of Chemistry, has discussed many problems confronting his department, the necessity for paying higher salaries and appropriating larger sums of money for research; he also took issue with the Bureau of Standards for invading his department's jurisdiction over sugar and other products. We can only quote from references to the

* Chief Chemist for Meyer Bros. Drug Company, St. Louis.

work on citrus fruit by-products and the wool-scouring industry. He said relative to the former that the work had been successful in California; the chief products are the citrus oils and citric acid. This year the work has been transferred to Florida, where the conditions are not so favorable for the production of citric acid, not so many lemons being grown there, and it is not profitable to make citric acid from grapefruit and oranges. Relative to the other he said that the Bureau desired to induce the industry to save the wool grease and obtain from it the lanolin and potash.

## THE RESIGNATION OF PROVOST EDGAR FAHS SMITH, UNIVERSITY OF PENNSYLVANIA.

We quote a few lines of an editorial from the *Journal of Industrial and Engineering Chemistry* on the resignation of Edgar Fahs Smith as Provost and Blanchard Professor in the University of Pennsylvania: "To those who because of present injustices in the recompense of teachers are disposed to seek other lines of work there is a wealth of example in his forty-four years of service." Doctor Smith has been a friend of pharmacy, and on more than one occasion gave expression of his interest, hence this item has a place here. The intention, however, is to extend the comment to a very important matter that concerns everyone, namely, the alarming decline of the number of those who seek to become teachers. It requires no deep research to find the cause; ultimately, unless conditions are corrected, there will be teacherless classes, neglected education of the masses and a lowered efficiency in the teaching forces.

**The Journal of General Physiology,** just launched by the Rockefeller Institute for Medical Research, 66th St. and Avenue A, New York City, is intended to serve as an organ for the publication of papers devoted to the investigation of life processes from the physiochemical point of view. It is to appear bi-monthly. The editors are Dr. Jacques Loeb, of the Rockefeller Institute, and Prof. W. J. V. Osterhout of Harvard University.

## MAJOR GENERAL W. C. GORGAS TO STAMP OUT YELLOW JAUNDICE ON THE GOLD COAST.

Under direction of the Rockefeller Foundation and in coöperation with the British authorities Major General W. C. Gorgas will seek to stamp out "yellow jaundice" from the coast areas of Sierra Leone, Nigeria and the Gold Coast Colony, which have given that region the name of "The White Man's Grave." The Gold Coast Colony has an area of 82,000 square miles, Sierra Leone 34,000 square miles, or about the size of Ireland, and Nigeria 330,000 square miles. There are 20,000,000 natives, all blacks, in the combined area, with possibly less than 5000 whites.

## SAMUEL W. FAIRCHILD HONORED.

Samuel W. Fairchild was given a luncheon February 12, by Maurice Casenave, Minister Plenipotentiary and Director General of the French Services in the United States. Mr. Casenave took this occasion to confer upon Mr. Fairchild the decoration of a Chevalier of the Legion of Honor, recently received from the French Government.

Mr. Fairchild was thus honored for his work as the head, in this country, of the Permanent Blind Relief War Fund for Soldiers and Sailors of the Allies blinded in the war; for his work in connection with the French Institute in the United States, of which he is vice-president; as a director and member of the Executive Committee of the France-America Society; for his services as a member of the committee appointed to entertain the members of the French Commission and other prominent French visitors here during the war; in recognition of his work as chairman of the "War Committee" of the Union League Club and in the interest of the various "drives" for the Liberty and Victory loans, the Red Cross and the Salvation Army.

Mr. Fairchild is the founder of the British and American Fairchild Scholarships in Pharmacy.

**Dr. Edward Kremers,** professor of chemistry of the University of Wisconsin, delivered a lecture February 20, under the auspices of the Cincinnati Chemical Society, at the Cincinnati University. His subject was "The Volatile Oils, their Production and Chemical Composition."

**Sol A. Eckstein,** member of the A. Ph. A., was elected, February 23, for a second term as president of the Old Settlers' Club of Milwaukee.

**L. G. Heinritz,** of Holyoke, Mass., vice-president of the American Druggists' Fire Insurance Company, was taken ill while in attendance at the annual meeting of the

company held in Cincinnati last month. We are advised Mr. Heinritz has fully recovered.

**H. C. Christensen,** secretary of the National Association of Boards of Pharmacy, is back in his office after an attack of pneumonia following influenza.

**Hugo Kantrowitz** met with an accident last month, which resulted in an arm fracture. He was however able to enjoy and participate in the concert and dance given by the New York German Apothecaries' Society.

**Louis Gershenfeld,** member A. Ph. A., has established a modern chemical laboratory for conducting diagnostic tests in the Professional Building, Philadelphia.

**Prof. W. G. Crockett,** Pharmacy Department of Baylor University, Dallas, Texas, was married to Miss Ethel Dulin, of Washington, D. C. Professor Crockett accepted the chair in Baylor following the New York A. Ph. A. meeting. He is a brother of Senator R. O. Crockett, of Tazewell, Va.

**Dr. H. S. Adams,** formerly production manager of E. R. Squibb & Sons, is now director of research with the Naugatuck Chemical Company, of Naugatuck, Conn.

**Dr. Allen E. Stearn,** of the Chemistry Department of the University of Illinois, has taken charge of the division of physical chemistry at the University of West Virginia.

At the Mid-Year Commencement Exercises of the University of Pittsburgh, on February 19, honorary degrees were conferred upon **Dr. William Henry Nichols,** past president of the American Chemical Society, and **Dr. William Albert Noyes,** present president, upon the recommendation of the Mellon Institute of Industrial Research.

**Ralph C. Root,** who has been appointed by Governor Clement as a member of the Vermont State Board of Pharmacy, is the youngest man ever appointed to the board, being but 23 years old. In 1918 he received the degree of pharmaceutical chemist from the Massachusetts College of Pharmacy.

**Mrs. Charles F. Harding,** wife of former president of the National Association of Retail Druggists, died February 19, of pneumonia. Mrs. Harding was 34 years of age. The sympathy of the members of the A. Ph. A. is extended to Mr. Harding in his bereavement.

During the past month a number of letters have been received from foreign honorary members of the American Pharmaceutical Association. We have also had communications from several of our older members who by virtue of years hold life membership in the Association, among them, from James Vernor of Detroit and John Best of Denver. The latter celebrated his 77th birthday March 18. He graduated from the New York College of Pharmacy in 1865, and sent along with his letter the commencement announcement of that year for the Section on Historical Pharmacy, A. Ph. A.

**Clyde L. Eddy,** Chairman of the Publicity Committee of the War Veterans' Section, has been doing splendid work and receiving the hearty coöperation of the pharmaceutical press. His last message was printed in the February Journal A. Ph. A., p. 218.

**Dr. Hugh S. Cummings,** of Hampton, Va., has been named to succeed Dr. Rupert Blue as Surgeon General of the U. S. Public Health Service.

**George O. Young** of Buckhannon, W. Va., delivered an illustrated lecture on Alaska, before the annual meeting of the American Druggists' Fire Insurance Company, during the recent annual meeting. Mr. Young spent about five months on a hunting trip in Alaska.

**Ex-President Charles H. LaWall** has contributed a timely and well illustrated article to the current issue of the *Forecast Magazine* on "Wood Alcohol."

**Prof. Joseph L. Mayer** recently read a paper on "The Detection of Wood Alcohol in Beverages" before Kings County Pharmaceutical Society.

The Massachusetts Library Club held part of its mid-winter sessions in the George Robert White Hall of the Massachusetts College of Pharmacy. Dean Theodore J. Bradley welcomed the visitors and in his address touched upon some of the main historical points of the college, but spoke especially of the Sheppard Library, bringing out the fact that the library is much older than the school; collections were begun nearly a hundred years ago.

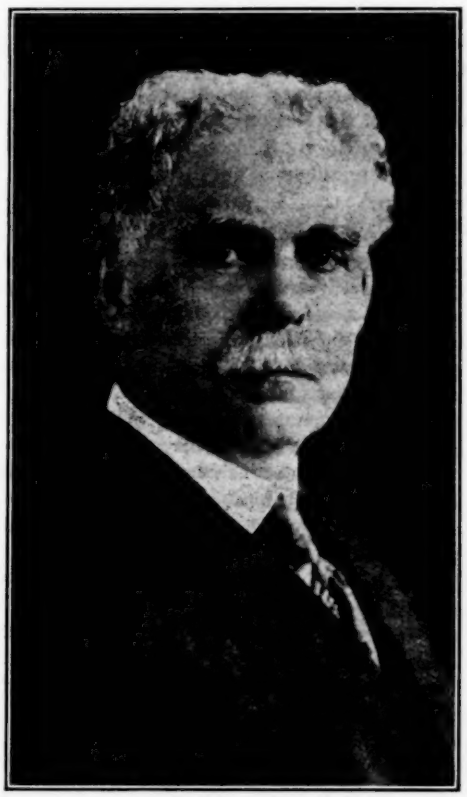
**Dr. A. S. Loevenhart,** professor of pharmacology and toxicology in the University of Wisconsin, Madison, was elected president of the National Pharmacological Society at the annual convention of the federated American societies for experimental biology, recently held in Cleveland.

## OBITUARY.

### GEORGE PIERRE ENGELHARD.

George P. Engelhard, president of G. P. Engelhard & Co., publishers of "The Western Druggist," and one of the deans of western trade journalism, died Tuesday, February 10, at his home in Chicago.

Mr. Engelhard was born in Brooklyn, N. Y., in 1854, moving to West Bend, Wis. with his parents in 1857, where he received his early education. In 1873 he went to Chicago and secured employment as a printer in the office of the first one-cent newspaper in that city. Two years later, at the age of twenty-one, he



GEORGE P. ENGELHARD

accepted the managing editorship of a weekly trade paper, at the same time taking a course in the University of Chicago. In 1879 he began the publication of "The Western Druggist;" in 1888, "The Medical Standard," and in 1906, "The National Jeweler," at the same time entering the book publishing field.

He drafted the first Illinois pharmacy law and the pharmacy acts of several other Western States. He was very active in drug trade association activities, and was an honorary member of the Chicago Veteran Druggists' Association and a member of the American Pharmaceutical Association.

In the early 80's, he was especially active in the organization of State pharmaceutical associations in the Central West, which had for their object the securing of legislation and the enactment of State pharmacy laws. He attended many of the early meetings of various associations, where his advice and counsel were sought in drafting the pharmacy laws of that period.

Mr. Engelhard was active in Republican politics, though ready at any time to battle against "boss" rule. He drafted the Illinois Republican platform of 1892 and was a delegate to the National Republican Convention of 1896. He was the youngest member of the directorate of the World's Columbian Exposition.

### FERDINAND ALPHONSE BONGARTZ.

Ferdinand A. Bongartz, of Jersey City Heights, N. J., died during the last week of February. He had been vice-president of the New Jersey State Board of Pharmacy for the past six years, resigning only last June because of ill health. He was appointed to that board originally by Governor Fielder and was reappointed by Governor Edge. He was prominent in pharmaceutical affairs, both State and National. He became a member of the New Jersey Association in 1888 and joined the American Pharmaceutical Association in 1905. Mrs. Bongartz and three sons survive the deceased.

### BENJAMIN FRANKLIN DOWNING.

Benjamin F. Downing, a well known druggist of Newport, R. I., died suddenly at his home on Friendship Street, in that city, on January 22. He had attended the meeting of Washington Commandery, Knights Templar, in the evening, and walked home with his son. On the way he spoke of feeling distress but reached his home. His condition became rapidly worse and he died before his physician, who had been summoned, could reach the house.

Mr. Downing was born in Newport 65 years ago, and had spent his entire life there.

He was the elder son of Benjamin F. and Julia E. Downing, and after receiving his early education in the public schools, determined to learn the drug business, entering the employ of Caswell, Hazard & Co., when about 16 years old. He remained with this firm, which was then located at the corner of Thames and Church Streets, until 1881, when he began business for himself, locating on Broadway, where he remained until his death. In 1886 he took his brother, Mr. G. F. Downing, into partnership, and the firm of Downing Brothers had continued about 35 years.

Mr. Downing joined the American Pharmaceutical Association in 1886.

### EDGAR M. WELLS.

E. M. Wells, a pioneer druggist, prominent in Texas since the 70's, died during the first week of March at Baptist Memorial Sanitarium, Dallas. Mr. Wells was born in Raymond, Miss., May 27, 1851; he graduated from the Philadelphia College of Pharmacy in 1876, and soon thereafter located in Fort Worth, Texas. He was one of the organizers and the first president of the Texas Pharmaceutical Association (1879) and served on the first committee of revision of the National Formulary. Mr. Wells was a member of the American Pharmaceutical Association until a few years after retiring from the retail drug business. He is survived by the widow and five children.

### GEORGE W. LATTIMER.

George W. Lattimer, of the Kauffman-Lattimer Co., Columbus, Ohio, died on February 13, at the age of sixty-four years. He was formerly secretary and treasurer of the Hocking Valley Mine Co. and in 1882 formed the firm of Kauffman, Lattimer & Rising. Mr. Lattimer was a member of the Board of Control of the National Wholesale Druggists' Association in 1901, elected vice-president in 1909 and president in 1913.

## SOCIETIES AND COLLEGES.

### NATIONAL COMMITTEE ON THE PHARMACEUTICAL SYLLABUS.

#### BULLETIN XXVI—REPORT OF PROGRESS.

All parts of the second edition of the Syllabus that are to be included in the third edition have been revised by the sub-committees and the chairmen, and mimeographed copies of the revised principal sections have been distributed to the members of the whole Committee for criticisms and suggestions, which, as received, have been referred to the chairmen of the sub-committees for consideration and incorporation into the sections, if found worthy. Accordingly, the parts of the new Syllabus corresponding to the first 155 pages of the present Syllabus are about ready for the printer. These parts comprise the introductory chapters and the outline of the two year course leading to the degree of Graduate in Pharmacy.

It has been decided by the Committee to omit the list of Reference Works, comprising Chapter VI of the second edition of the Syllabus, and to include an outline for a third year of graduate work leading to the degree of Pharmaceutical Chemist, a chapter on examination questions, and a brief list of general terms used in the Syllabus, with their definitions.

E. A. Ruddiman has been appointed as a special committee to prepare the chapter on examination questions, with the understanding that he will use the material collected during several past years by the Committee on Examination Questions of the Conference of Pharmaceutical Faculties, of which committee he is Chairman. C. M. Snow is preparing the list of general terms used, and the sub-committees have nearly all of the outlines of the subjects to be included in the third year course ready for submission.

Thus it appears that practically all of the third edition can be sent to the printer soon, if provision is made for further necessary revision of the proof sheets, and the Chairman has secured quotations for making the book from three responsible printing firms in Boston, all of whom are accustomed to doing work of this character. The bids are based on the following specifications:

Estimated to make approximately 150 pages, 6 × 9 inches, but otherwise following the general style of the second edition, and bound in cloth.

25 galley proofs of the original composition.

Matter to be held in type possibly for some months, for the Committee's examination and study, and when the corrections or changes shall have been made by the Committee another set of 25 galley proofs are to be furnished for further revision.

After the matter is put into page form, 25

page proofs are to be furnished for final corrections.

Bid per page for 1200 copies including all the above specifications, but to which may be added a charge for authors' changes.

Conditions are very difficult in the printing and bookbinding trade at the present time, but bids of $6.00, $7.50, and $9.59 per page with the additional charge of $1.50 per hour for time spent on "authors' changes" have been received.

The chairman is satisfied that it will not be possible to secure a better bid than the lowest of those submitted, which is from the Riverdale Press, Brookline, Mass., an old established and well known firm of printers, and the order will be given to this firm if a majority of the Committee express their approval on the enclosed voting cards.

It appears that the third edition of the Syllabus will fill about 150 octavo pages and that it will cost about one thousand dollars for printing and binding the edition of 1200 copies. After the second edition was published, the Committee was about four hundred dollars in debt, which it took several years to pay. There is now a balance of about $175 in the Treasurer's hands and it will be necessary to fix the price at which the new edition is to be sold and to secure advance orders to provide the funds needed for publishing the book, and to avoid incurring any debts. With this object in view, it is proposed that the price be fixed at $1.50 absolutely net to everyone, excepting that copies ordered and paid for before publication will be sold at $1.25 net. If these prices are approved, the Secretary-Treasurer can begin soliciting orders at once.

These two proposals are brought before the Committee for vote, without the formality of motions, in order to save time.

Respectfully submitted,

THEODORE J. BRADLEY, *Chairman.*

## PHILADELPHIA DRUG TRADE HONORS SERVICE MEN.

All branches of the Philadelphia drug trade united in honoring the returned Soldier and Sailor Pharmacists at Lulu Temple on Friday evening, February 27th. A committee consisting of representatives of the various Pharmaceutical Associations in and around Philadelphia had been busily engaged for several weeks in preparing for the reception and their efforts were crowned with success.

It is not often that pharmacists have an opportunity to gather socially, and the attendance of nearly 800 people including about 225 service men bore testimony to the fact that when the occasion presents itself, members of the Philadelphia Drug Trade respond loyally.

Edward T. Hahn acted as chairman of the affair and in his usually jovial manner made everybody feel at home.

Short addresses by service men relating their experiences in various branches of the service opened the program. These were interspersed by vocal selections rendered by the well known soloist, Donald V. Redding. A stirring patriotic address by Capt. Donald Kirk was followed by a silent tribute in honor of the men who had fallen in the defense of their country. All of the service men were then presented with free membership in the American Pharmaceutical Association for 1920 by Mr. Robert P. Fischelis, chairman of the World War Veterans Section American Pharmaceutical Association. Serving of refreshments and dancing concluded the program of the evening which was pronounced one of the most successful get-together affairs ever held by the drug trade of the Quaker City.

The service men and their subjects were as follows: Karl F. Ehman—"With the Guns." Thomas J. Devine—"The Navy."

## VIRGINIA WELCOME HOME MEETING.

A most enjoyable evening was spent by the boys who have been in the service of Uncle Sam as the guests of the Virginia Section, A. Ph. A., Wednesday, January 22, at College Hall. There were about sixty present. The members of the Board of Pharmacy were on hand and a few of the professors from the Medical College. A banquet was served and there was a little speech-making. Charlie Walker was the toastmaster; Dr. Rosher W. Miller was the principal speaker of the occasion. C. D. Fox touched high spots of patriotism, with humorous personal jabs interspersed; Dr. J. B. Williams, A. E. F., spoke from the service man's point of view. Others made brief addresses, and altogether it was a most pleasant evening.

## SYRACUSE RETAIL DRUGGISTS' ASSOCIATION DINE A WAR WORKER AND ELECT OFFICERS.

Early in February, more than fifty members of the Syracuse Retail Druggists' Association were present at a buffet dinner held in honor of Frank Lawyer, a former druggist, who has recently returned from eighteen months' service with the Y. M. C. A. in Egypt.

After the dinner the following officers were elected by the druggists: *President*, D. Bruce Furnival; *Vice-President*, Herbert G. Wright; *Secretary*, Albert Muench, and *Treasurer*, Louis D. Ireland.

## SCIENTIFIC SECTION OF THE A. PH. A.

During the Annual Convention of the American Pharmaceutical Association, which will be held in Washington, D. C. on May 4 to 10, 1920, the Scientific Section will hold its meetings on Thursday, Friday and Saturday, May 6th, 7th and 8th. Those desiring to read papers before this section should submit them to the Secretary, Dr. A. G. DuMez, Hygienic Laboratory, U. S. Public Health Service, Washington, D. C., not later than April 1st.

Chairman Jacob Diner advises that a series of symposiums are contemplated as follows:

1. On Biological Products (vaccines, serums and glandular secretion products).
2. On Physiological (Biological) Assay.
3. On Chemicals of the U. S. P.
4. On Vegetable Drugs of the U. S. P.

Members are cordially invited to contribute papers; titles of the papers should be in the hands of the officers by April 1.

## WESTERN RESERVE UNIVERSITY.

Dr. P. J. Hanzlik, University of Iowa '02, and '08 of Western Reserve University and his collaborators have for some time been investigating the fate of salicylates in the body and have made several reports. Some of the conclusions reached are no in accord with the older literature. The latest report is to be found in the *Journal of Pharmacology and Experimental Therapeutics*, under the title, "The Salicylates: The Stability and Destruction of the Salicyl Group under Biological Conditions."

## UNIVERSITY OF NEBRASKA COLLEGE OF PHARMACY.

Dr. Albert Schneider is planning some changes in the University of Nebraska medicinal plant garden for the coming season, and will endeavor to test out a greater variety of drug producing plants, with special reference to ascertaining those drug plants which are most likely to be grown in Nebraska on a commercial scale. Field experiments covering various kinds of plants will be tried, and the various methods of growing and crop returns will be reported in bulletin form for the benefit of those in the State who contemplate growing such plants.

## MASSACHUSETTS COLLEGE OF PHARMACY.

The Alumni Association of the Massachusetts College of Pharmacy held its annual meeting January 30. Herbert E. Bowman, '95, was elected President for the ensuing year, with Daniel O. Wolff, '09, Henry Barone, '10, and Mrs. Cora Burt Gross, '07, as *Vice-Presidents;* Florin J. Amrhein, '15, *Secretary;* Leon A. Thompson, '09, *Treasurer*, and Elie H. La Pierre, '80, *Auditor*. The Council was revived, and Dr. Frank Piper was elected its chairman, the other members being Florence A. Eichorn, '03, Paul C. Klein, '88, Frank F. Ernst, '90, and Leopold Bartel, Jr., the retiring president.

William H. Glover, '92, Carlton B. Wheeler, '11, and Leon A. Thompson, '09, were chosen as delegates to represent the Alumni Association at the Pharmacopoeial Convention to be held in Washington in May, the alternates being John G. Godding, '74, Irving P. Gammon, '89, and Frederick W. Archer, '85.

## LOUISVILLE COLLEGE OF PHARMACY.

For the purpose of remodeling and equipping the Louisville College of Pharmacy a campaign has been started to raise $50,000. Simon N. Jones is chairman of the Committee and he is assisted by the following members: John J. Seiberz, Robert J. Frick, Horace O. Hurley, William Vitteler and Edward H. Day. Among the founders of the institution were the late C. Lewis Diehl and Emil Scheffer.

## SOUTH DAKOTA STATE COLLEGE.

The library of South Dakota State College, department of pharmacy, has been enlarged, greater opportunities are given to research students and provision has been made for study in connection with the medicinal and poisonous plant garden.

## ST. LOUIS COLLEGE OF PHARMACY.

The Alumni Association of the St. Louis College of Pharmacy held its annual meeting in the College building, 2108–10 Locust St.,

on Tuesday evening, February 17th. After the meeting adjourned the members went to the American Hotel Annex where the annual banquet was held. Thomas B. Chambers was in charge of the entertainment features.

### AMERICAN CHEMICAL SOCIETY MEETS IN ST. LOUIS.

The spring meeting of the American Chemical Society will be held in St. Louis during the week of April 12 and headquarters are to be at the Statler Hotel, St. Louis; because of its strong position chemically, central location and ready accessibility, should draw a good attendance.

### AMERICAN DRUG MANUFACTURERS TO MEET APRIL 12–15.

The American Drug Manufacturers' Association will hold its annual convention in New York, April 12 to 15. The convention of 1919 was held in March, but many members found it impossible to attend the meeting before April, this year, and the date was postponed.

### MASSACHUSETTS PHARMACEUTICAL ASSOCIATION HOLDS MID-WINTER MEETING.

The mid-winter meeting of the Massachusetts Pharmaceutical Association was held at Worcester, Mass., February 16. Vice-President Parquette presided over the sessions owing to the enforced absence of President Hearn by the illness of Mrs. Hearn. Legislative matters were the principal subjects for consideration. There are now quite a number of bills that affect the drug business before the State Legislature. The names of Messrs. Campbell, of Lowell, and Brandle of Northampton were entered as nominees for the next appointment to the Board of Pharmacy.

### RHODE ISLAND PHARMACEUTICAL ASSOCIATION.

The annual meeting of the Rhode Island Pharmaceutical Association was held at Providence, January 16.

The following officers were elected: *President*, Earl H. Mason, Providence; *Vice-President*, James P. McDonald, Providence; *Secretary*, Owen E. Barrett, Providence; *Treasurer*, Frank R. Keighley, Arlington; *Executive Committee*, Byron A. Smith, Providence, and Max W. Saugy, Warren.

President Mason was graduated from the R. I. College of Pharmacy in 1912 with the degree of Ph.G., received the degree of Phar.D. in 1914, acted as assistant instructor to George S. Morgan, Professor of Operative Pharmacy at the R. I. C. of Pharmacy for five years. He has served the State Association as Chairman of the Entertainment Committee, treasurer and vice-president.

Mr. Mason enlisted in the World War and was discharged as Hospital Sergeant, having participated with Evacuation Hospital No. 14 in the St. Mihiel and Argonne offensives and was four months with the Army of Occupation stationed at Coblenz, Germany.

### VERMONT PHARMACEUTICAL ASSOCIATION HOLDS MID-WINTER MEETING.

Vermont Pharmaceutical Association held a mid-winter meeting in Montpelier January 28. President F. D. Pierce of Barton presided and Secretary W. E. Terrill recorded the transactions which were largely concerned with legislative matters. The principal speaker was attorney E. C. Brokmeyer of the N. A. R. D., who spoke on national legislation and explained some of the recent narcotic and prohibition regulations.

## THE PHARMACIST AND THE LAW.

### HIGH COST OF GOVERNMENT AND H. C. L.

There are questions of law and government with which, aside from the immediate multitude of laws and regulations, druggists are concerned. It is beginning to sink in that the high cost of government is largely responsible for the high cost of living. The problem remains for raising annually about four billion dollars by taxation. There is not only annoyance but unfairness in much of the taxation. The question of a general sales tax was considered when the present system was devised; in our opinion it is still the most equitable proposed. Dr. Nicholas Murray Butler of Columbia University said recently in an address:

"All the huge burden of debt and greatly expanded cost of government directly affect the cost of living. The expansion of credit necessary to float government loans and to carry on the war, with its resulting inflation of currency, depreciated the purchasing power of the dollar and at least doubled the cost of living. On the other hand, to increase wages to equalize conditions with 1914, operates to

increase the cost of goods and so to establish a vicious circle of wages and prices, the effects of which are more severe the longer the vicious circle is continued."

There should be a more general determination to save on the part of the public and not so much to invest and speculate. The government should be more conservative in creating new ways for expending money. The House of Representatives has under consideration the provision of bonuses for the men who served the country and the world; desirable as the object is it means the provision of another loan for 2 billion dollars, or more. The number of bonds already is so great that they can not be maintained at par; nothing less than 5 per centum would carry through a new loan and that would further reduce the value of the former. Everyone feels it would be fine to reward those who made the sacrifices, but just as with individuals there are times when generous impulses can not be gratified. No one realizes this fact more than those who served their country; they have given us many a lesson in unselfish devotion.

## THE NEW YORK WORTH STREET DRUG CLINIC CLOSED.

The Worth Street Drug Clinic of New York City was closed February 6. Dr. S. Dana Hubbard, acting director of the Bureau of Public Health Education, sums up the experience of eleven months' study of the drug habit and the characteristics of the drug addict in the current *Monthly Bulletin* of the Health Department.

"We have been led to believe that addiction was allocated with certain definite physical stigmata," writes Dr. Hubbard, "such as pallor, emaciation, nervousness, apprehension, snuffling, needle puncture markings and tattoo skin evidences, but in actual experience with hundreds of acknowledged drug addicts, persons actually seeking their drug supply, we find, like the weather indications, all such signs failing.

"Most—in fact 70 percent—of the addicts in our clinic are young people; they have had no really serious experiences—surely none sufficient to occasion a desire to escape all of life's responsibilities by recourse to the dreams of narcotic drugs; therefore the one and only conclusion that we can arrive at is that the acquirement of this practice—drug addiction—is incident to propinquity, bad association, taken together with weak, vacillating dispositions, making a successful combination in favor of the acquirement of such a habit. Being with companions who have those habits they in their curiosity give it a trial (similar to the acquirement of cigarette smoking in our young) and soon have to travel the same road to their own regret."

## UNITED STATES PHARMACOPOEIAL CONVENTION.

The following amendments to the Constitution and By-Laws are recommended by the Board of Trustees for adoption by the Convention at Washington, May 11, 1920.

Words to be deleted are enclosed in brackets and words to be added are printed in italics:

### CONSTITUTION.

### ARTICLE II.

*Membership.*

SECTION 1. The members of the United States Pharmacopoeial Convention, in addition to the Incorporators and their associates, shall be delegates elected by the following organizations in the manner they shall respectively provide: Incorporated Medical Colleges, and Medical Schools connected with Incorporated Colleges and Universities; Incorporated Colleges of Pharmacy, and Pharmaceutical Schools connected with Incorporated Universities; Incorporated State Medical Associations; Incorporated State Pharmaceutical Associations; the American Medical Association; the American Pharmaceutical Association, [and] the American Chemical Society, *the National Association of Retail Druggists, and the National Association of Boards of Pharmacy;* provided that no such organization shall be entitled to representation unless it shall have been incorporated within and shall have been in continuous operation in the United States for at least five years before the time fixed for the decennial meeting of this corporation.

SECTION 2. Delegates appointed by the Surgeon General of the United States Army, the Surgeon General of the United States Navy, and the Surgeon General of the United States Marine-Hospital Service, the Secretary of Agriculture, the Secretary of Commerce and Labor, the Association of Official Agricultural Chemists, the Association of State and National Food and Dairy Departments, the National Wholesale Druggists' Association, [and] the National Dental Association, *the American Drug Manufacturers' Association, the United States Division of Customs, and the University of Havana,* and by the organizations

not hereinbefore named which were admitted to representation in the Convention of 1900, shall also be members of the corporation. Each body and each branch of the United States Government above mentioned shall be entitled to send three delegates to the meetings of this corporation. But no such delegates as are provided for in this article shall be members until their credentials shall have been examined and acted upon as provided for by the By-Laws. Del gates admitted as members at any decennial meeting shall continue to be members of the United States Pharmacopoeial Convention until their successors shall have been appointed and admitted as delegates to the ensuing Convention and no longer.

ARTICLE V.

*Meetings.*

The regular meetings of this corporation shall be held once in ten years. The time of holding the decennial meeting shall be upon the second Tuesday in May, in the first year in each decade ending in zero, and the place of meeting shall be in the City of Washington, D. C. *Unless in case of emergency, the Board of Trustees and officers of the Convention, by joint vote, shall select some other place of meeting and some date within the same year other than the second Tuesday in May.* The first decennial meeting shall be held in the year 1910.

ARTICLE VI.

*Amendments.*

Every proposition to alter or amend this Constitution shall be submitted in writing to the Board of Trustees, and having received the votes of at least five members of the Board of Trustees, shall be [published in the medical and pharmaceutical journals] *submitted to the medical and pharmaceutical press,* at least three months before the decennial meeting of the United States Pharmacopoeial Convention, when, upon receiving the votes of at least three-fourths of the members present and voting it shall become a part of this Constitution.

## BY-LAWS.

CHAPTER III.

*Of the Treasurer.*

ARTICLE II. He shall pay no moneys except on the written order of the Board of Trustees. All bills must be accompanied by proper vouchers and all payments shall be by checks, and such checks drawn by the [Treasurer] *Secretary of the Board of Trustees* for the payment of moneys shall be *signed by the Treasurer and* countersigned by the Chairman of the Board of Trustees to become valid.

CHAPTER IV.

*Of the Trustees.*

ARTICLE V. There shall be an annual meeting of the Board of Trustees *at such time and place as the Board shall direct,* unless in any year such meeting shall have been declared unnecessary by a special vote of the Board. For the taking of such vote and for other matters, the Board shall have the right to transact business by correspondence. Special meetings of the Board of Trustees shall be called upon the written request of at least three members, and the Chairman shall have the power to call a special meeting whenever he shall deem it necessary. The members of the Board of Trustees shall receive no compensation for their services, but traveling and other necessary expenses which may be incurred by them shall be paid from the funds of the Convention.

CHAPTER IX.

*Of Meetings.*

ARTICLE II. The order of business at the first session of each decenial meeting shall be as follows:

*Section 4. Report of the Chairman of the Board of Trustees, the Secretary of the Board of Trustees and the Treasurer of the Convention.*

Change the present Section 4 to Section 5, Section 5 to 6, and 6 to 7.

January 30, 1920.

JAS. H. BEAL, *Chairman,*
H. M. WHELPLEY, *Secretary,*
*Board of Trustees.*

## REGULATIONS NO. 60.

No further quotations are made from Regulations No. 60, which can now be obtained by druggists from the Collectors of Revenue. Referring to the regulation which provides that wholesalers can not sell intoxicating liquors in less than 5 gallons, the Drug Trade Section of the New York Board of Trade and Transportation has pointed out to Commissioner Kramer that five gallons is not the dividing line between wholesale and retail in the drug trade and that the retail druggist in fact usually buys in much smaller quantities from the wholesaler elixirs and tinctures that have been held to be potable.

To prohibit the sale of alcohol and of

these various elixirs and tinctures in less than five gallon quantities by wholesale druggists will have the effect of compelling the trade to entirely reorganize its methods of doing business.

### COMMISSIONER OF INTERNAL REVENUE DANIEL C. ROPER RESIGNS.

In accepting, on March 6, with "great regret" the resignation of Daniel C. Roper as Commissioner of Internal Revenue, President Wilson told Mr. Roper, in a letter made public at the White House on date given, that he appreciated his services to the Government "for many years in different difficult positions and always with distinction."

Commissioner Roper based his resignation, his letter to the President discloses, on a desire to "re-enter private life to pursue my personal plans."

### PROHIBITION OFFICIALS RECEIVE INSTRUCTIONS HOW TO CONDUCT INSPECTIONS.

The following are some of the instructions issued by the Bureau of Internal Revenue to officials for inspections of plants using non-beverage alcohol; they are to ascertain the following:

How long the business has been established.

Previous occupation and reputation of the proprietor.

Whether or not a chemist, pharmacist or other person with a knowledge of compounding is employed in the manufacture of the finished product.

The manner in which the alcohol in bulk is stored on the premises and the steps taken by the proprietor to safeguard any illegitimate use thereof by employes.

The volume and character of business. Note is to be taken of the equipment on hand for compounding, such as mixing vessels, means of filtering or clarifying and bottling. If medicines, extracts or toilet preparations are being manufactured, whether or not a reasonable quantity of crude drugs, flavoring oils and essential oils are on hand to meet the legitimate needs of the business. Careful search is to be made for any whisky or brandy essences, beading oil or other materials commonly used in compounding spirits.

The character and business of customers purchasing the finished product.

Whether or not the finished product is in reality sold, distributed and purchased in good faith as either a medicinal or toilet preparation or a flavoring extract.

### ONE CENT LETTER POSTAGE CONTEMPLATED.

In the House of Representatives Mr. Rouse of Kentucky introduced the following bill, which was referred to the Committee on the Post Office and Post Roads and ordered to be printed: *Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That upon all local mail matter of first class and all mail matter of the first class on local rural routes, postage shall be charged, on and after the 1st day of July, 1920, at the rate of 1 cent per ounce or fraction thereof.

## NEW PUBLICATIONS.

*Chemistry: Les Progres de la Chimie en 1918. Traduction Française Autorisée des* "Annual Reports on Progress of Chemistry for 1918." André Kling, Editor. 322 pp. Price, 15fr. Gauthier-Villars & Cie, Paris.

*Color Chemistry: Grundlegende Operationen der Farbenchemie.* H. E. Fierz. 323 pp. Schulthess & Co., Zurich.

*Organic Chemistry: Notions Fondamentales de Chimie Organique.* Charles Moureu. 6th Ed. 8vo. 552 pp. Price, 24fr. Gauthier-Villars & Cie, Paris.

*Organic Compounds: Preparation of Organic Compounds.* E. De Barry Barnett. Price, 10s. 6d. J. & A. Churchill, London.

*Chemistry and Its Mysteries.* The story of what things are made of told in simple language. Charles R. Gibson, F.R.S.E., author of "The Stars and Their Mysteries;" "The Great Ball on Which We Live," etc. 41 illustrations. 12mo. 246 pp., cloth. Philadelphia, J. B. Lippincott Company.

*Textbook of Physiology.* Martin Flack, C.B.E., M.B., B.Ch., and Leonard Hill, M.B., F.R.S. New York: Longmans, Green & Co., 1919. 8vo. 800 pp.; illustrated.

*Elements of Business.* Parke Schoch and Murray Gross. New York: American Book Company. 8vo. 216 pp.; illustrated.

*Techno-Chemical Receipt Book.* William T. Brannt and William H. Wahl, Ph.D. New York: Henry Carey Baird and Co., Inc., 1919. 8vo. 516 pp.; 78 engravings.

*Praktikum der Medizinischen Chemie.*

Einschliesslich der Forensischen Nachweise für Mediziner und Chemiker. Von Dr. Sigmund Fränkel, Professor der Medizinischen Chemie an der Universität in Wien. Paper. Price, 18 marks. Pp. 439, with illustrations. Berlin: Urban & Schwarzenberg, 1918.

*Essentials of Pharmacy with Questions and Answers.* Clyde M. Snow, Ph.G., A.M., Associate Professor of Pharmacy, University of Illinois School of Pharmacy. Price, $5.50. C. V. Mosby Co., St. Louis, Mo.

A review will appear in next issue of the JOURNAL A. Ph. A.

PUBLICATIONS RECEIVED.

*Digest of Comments on the Pharmacopoeia of the United States of America and on the National Formulary for the Calendar Year Ending December 31, 1915.* A. G. DuMez. Hygienic Laboratory Bulletin No. 118. Paper. Price, 35 cents. Pp. 456. Washington: Government Printing Office, 1919.

*Digest of Comments on the Pharmacopoeia of the United States of America and on the National Formulary for the Callendar Year ending December 31, 1916.* By A. G. DuMez. Hygienic Laboratory Bulletin No. 119. Paper. Price 20 cents. Pp. 316. Washington: Government Printing Office, 1919.

We have in the past made comment on these valuable Bulletins and the service rendered by their publication to pharmacy and therefore quote from the first paragraph of the Preface, containing information relative to the compilation. The bulletins are the eleventh and twelfth in the series of Hygienic Laboratory publications, known as the Digest of Comments on the Pharmacopoeia of the United States of America and the National Formulary. Like the preceding bulletins of this series, they are comprehensive indexes of all available literature which may be of interest or value in connection with the revision of the two standard works mentioned in the title. The marked reduction in the number of pages from that of preceding numbers is not the result of an attempt on the part of the compiler to narrow the scope of the work, but is due to a diminution in the number of articles pertaining to pharmaceutical research published during the respective years, and to the fact that a number of the foreign periodicals have not been received in this country of late. In fact, the publication of some of these journals has been suspended for the period of the war.

"In this, as in the preceding numbers of the bulletin, all of the available literature has been gone over carefully and the abstracts have been made as concise as possible without detracting from their value as working references. In those cases where the articles were of such a nature that they could not be abstracted with advantage, merely the titles have been given.

"In citing references no attempt has been made to record all of the periodicals in which a given paper may have appeared. As a rule, the reference most easily accessible to the American pharmacist has been given preference, even in those cases where the original paper did not appear in the publication recorded. With respect to the papers presented at the annual meetings of the British Pharmaceutical Conference, references are only given to the *Pharmaceutical Journal* and the Yearbook, it being understood that wherever these two references appear conjointly the article can also be found in the *British and Colonial Druggist* and the *Chemist and Druggist.*"

Within certain limits for free distribution, copies may be obtained by application to the Surgeon General of the Public Health Service, Washington, D. C. They may also be obtained at a nominal price from the Superintendent of Documents, Washington, D. C.

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The solution of the greatest error, traceable through all the days of civilization, is in the development of a spirit of coöperation to be applied to every department of the world's activities.

What is wrong can be made good, what is good can always be made better. If you think everything is wrong at present with pharmacy you are in a bad way. If you think that everything was wrong in the past as well as the present you are in a worse way. And if you think everything will be wrong with pharmacy in the future—there is a misfit.

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## ORGANIZATION OF LOCAL BRANCHES, 1919-1920.

The General Secretary should have prompt notice of corrections and changes. Reports of Monthly Meetings and Papers should be sent to THE JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, 253 Bourse Building, Philadelphia, Pa.

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Branches are asked to supply missing names and make corrections.—JOURNAL A. PH. A., 253 Bourse Bldg., Philadelphia, Pa.

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